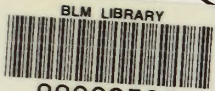


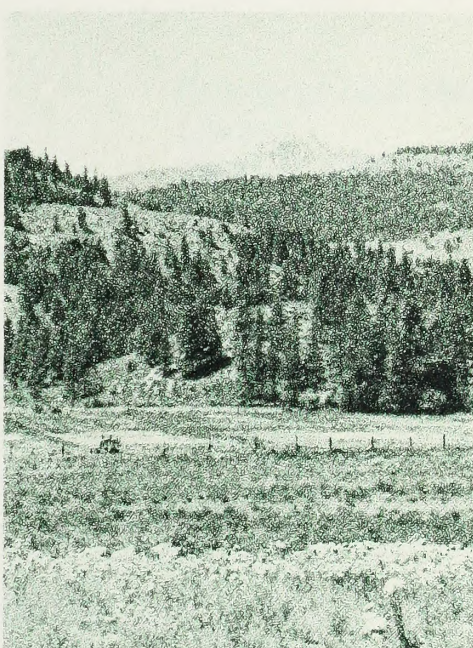
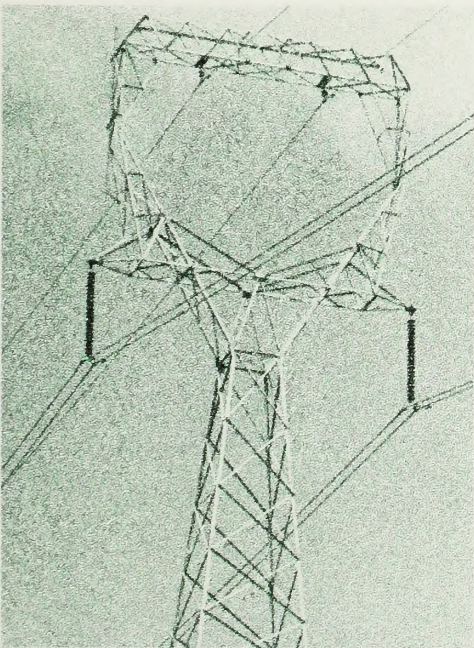
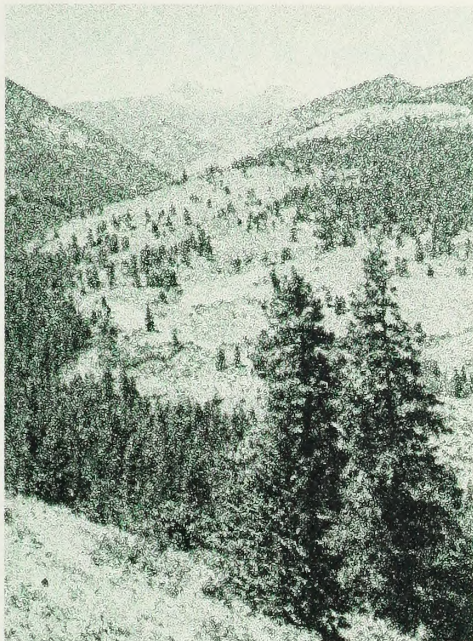
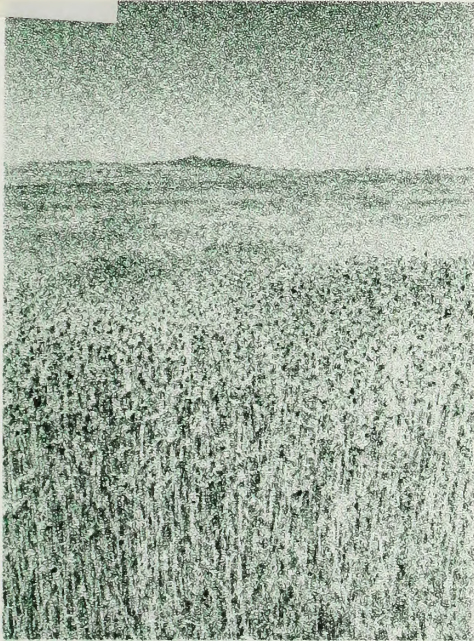
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Federal Corridor Option Summary

August 1979



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UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

FEDERAL BUILDING MISSOULA, MONTANA 59801

JUL 30 1979

1950

Mr. Ronald Wilkerson
Colstrip EIS Manager
Bonneville Power Administration
Room 561, U.S. Court House
West 920 Riverside Ave.
Spokane, WA 99201



Dear Ron:

Enclosed is the completed Colstrip Transmission Federal
Corridor Option Summary.

Please incorporate this document with the final Colstrip
Environmental Impact Statement.

Sincerely,

Robert W. Larsen
for Regional Forester
Region One
USDA Forest Service

Bureau of Land Management
Library
Bldg. 50, Denver Federal Center
Denver, CO 80225

Ralph S. Gens
Assistant Administrator for
Engineering and Construction
Bonneville Power Administration

Kenneth Richards (acting)
State Director - Montana
USDI Bureau of Land Management

Enclosure

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FEDERAL CORRIDOR OPTION SUMMARY:

Colstrip Transmission System

Prepared by:

U.S. Department of Agriculture
Forest Service
Northern Region

U.S. Department of the Interior
Bureau of Land Management
Montana State Office

U.S. Department of Energy
Bonneville Power Administration
Portland Office

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INTRODUCTION

This document is an interagency summary of the major advantages and disadvantages of Colstrip transmission corridor options. Most of the information is condensed from the Colstrip Transmission Environmental Report (TER).

In March 1978, the Montana State Director of the Bureau of Land Management, the Regional Forester for Region I of the U.S. Forest Service, and the Bonneville Power Administration (BPA) Administrator agreed to a joint evaluation of key factors which would affect federal decisions on a right-of-way corridor for the Colstrip transmission lines, should the overall project be approved. This allowed the public to review not only the analysis of impacts in the Colstrip Environmental Impact Statement, but also initial management determinations on items considered important in the analysis.

Therefore, in early summer of 1978, an interagency group was established to develop a summary of key advantages and disadvantages of federal corridor options for review by management. The three agency officials approved a set of criteria under which the summary would be developed, and met again to approve the following document on September 26, 1978.

The public reviewed this analysis, as well as other agencies, during their review of the Colstrip Project EIS between March and April 1979. Issues and concerns surfaced at that time were used to help develop this final option document.

Two things are important to understand in reviewing this summary. First, options presented in this document deal only with items to consider in reaching federal decisions to approve or deny a right-of-way corridor across federal lands. The document does not address centerline right-of-way issuance. Further, any corridor decision is connected to final decisions on the construction of Colstrip Units 3 and 4 and related coal mining operations.

Second, federal agencies are charged, under the National Environmental Policy Act, with evaluating all impacts of a project, not just those affecting federal lands. The summary therefore addresses advantages and disadvantages of the corridor options regardless of whether they occur on federal land or fall directly under federal jurisdiction.

Some of the major issues raised by the transmission line portion of the Colstrip project include:

1. Overall environmental impacts of the transmission lines.
2. Overall need for the electricity to be generated by the Colstrip Project.
3. Crossing of the Flathead Indian Reservation.
4. Impacts of residential areas and people generally.
5. Use of existing utility corridors as opposed to the development of a new corridor.

6. Adverse impacts on unique natural resources and scenic beauty.
7. Encroachment on designated wilderness or natural areas.
8. Project cost.
9. Potential BPA construction of part of the line.
10. Compatibility with State of Montana approved corridor.

I. INTERAGENCY CORRIDOR OPTION PROCESS

The objective of this interagency summary process is to identify and evaluate the advantages and disadvantages of alternate corridor options available to the Forest Service and the BLM as federal land managers, and potentially to BPA should they ultimately become involved in a construction decision. The ultimate goal of cooperation on such a summary is the agreement on a single corridor recommendation by the federal agencies involved.

Initially, the summary process used a set of factors considered important by the agency managers to identify, organize, and evaluate key advantages and disadvantages connected with each of the major Colstrip corridor options developed in the TER. Those advantages and disadvantages considered major were then listed by corridor. These tables comprise Part V of the Option Summary. The two summary charts in the appendix further compare this information by those categories thought to be most important after the analysis was completed. The factors considered in developing corridor advantages and disadvantages include:

- Overall environmental impact.
- Overall visual impacts including areas of high impact.
- Impact on commercial forest.
- Impact on agricultural operations.
- Conflict with special management areas and unique resources.
- Overall impact on recreation sites and values.
- Effect on fish and wildlife habitat, threatened and endangered species.
- Cultural resource impact.
- Effect on residential area.
- Construction costs.
- Transmission corridor length.
- Flathead Indian jurisdiction.
- Degree of paralleling of existing powerlines.
- Present project approval status under state jurisdiction.
- Implementation schedule.
- Compatibility with existing federal land use plans.
- Impact on energy conservation.
- Annual operating cost.
- Adaptability to long range electrical plans.
- Specific public comments or positions.

Evaluation of public comments on the Colstrip Draft Environmental Statement and transmission options has led to some further analysis and revision of the advantages and disadvantages presented to land managers to assist in their

corridor decision. A number of comments led to changes in the information presented in the Transmission Environmental Analysis, but did not directly change relative corridor advantages or disadvantages.

The BLM State Director, Montana, and the Regional Forester, Region I, must now review these options with the intent of jointly recommending the federally approved corridor for the Colstrip project, should the project receive ultimate approval and the designation of such a corridor appear in the public interest. This decision will be made with advice and consultation with the Bonneville Power Administration to the extent that such a decision might also affect BPA operation. A notice of decision will subsequently be filed in accordance with the new Council on Environmental Quality regulations (40 CFR Part 1505).

II. FEDERAL MANAGEMENT OPTIONS

Included are options for the designation of a suitable right-of-way corridor under provisions of the Federal Land Policy and Management Act (90 Stat. 2473), Section 503. The preferred corridor would be the context for considering, processing, and acting upon a specific right-of-way application(s) for the crossing of federal lands. Federal agencies, primarily the Forest Service and the Bureau of Land Management, have four broad management options, once this stage in the decision process is reached.

- A. Delay any federal corridor action. Since this option rests with a decision on the overall project, it is not analyzed in this option document.
- B. Approve the Applicant's Proposed Corridor and proceed with centerline right-of-way processing, contingent upon overall project approval.
- C. Deny existing right-of-way applications, with the decision that the applicant's proposed corridor is unacceptable to the federal agencies; but approve an alternate corridor as suitable and within which the federal agencies would favorably act upon a new right-of-way application(s).
- D. Decide that no federal corridor is suitable for land use purposes as compared with project benefits, and deny existing right-of-way applications for the crossing of federal lands.

In addition, one other type of decision could be involved:

- E. The Bonneville Power Administration has been asked by the Montana Power Company to construct part of the lines. The advantages and disadvantages of a BPA decision to construct are presented in option Tables 6 and 8. Any BPA decision is contingent upon the overall federal corridor decision, among other factors.

III. ACTIONS REQUIRED BY FEDERAL AGENCIES

Federal agencies have the responsibility to make decisions for various aspects of the Colstrip project or are required to provide appropriate consultation during the decisionmaking process. Their responsibilities are:

<u>Agency</u>	<u>Action Required</u>
Department of Agriculture Forest Service (FS)	Grant easements across National Forest System Lands and Special Use Permits for access roads as required.
Rural Electrification Administration (REA)	The Rural Electrification Administration (REA) has participated in the preparation of this EIS as Cooperating Agency No. USDA-REA-EIS (ADM 79-8-F), and intends to use it to fulfill its requirements under the National Environmental Policy Act. In this case, REA's anticipated potential actions are those of guaranteeing load funds for two power generation and transmission cooperatives, Central Montana G&T and Upper Missouri G&T; the first having indicated an interest to buy equity into the Colstrip Project for a power share of 7 percent, and the latter for a power share of 3 percent.
Department of the Army Corps of Engineers (CoE)	Issue permits for stream/river crossings (i.e., Yellowstone, Missouri, Little Blackfoot, Blackfoot, Jocko, and Flathead Rivers). Permits are required before crossing any stream flowing 5 cubic feet per second or more.
Department of Energy Bonneville Power Administration (BPA)	Potential construction integrating transmission facilities from Hot Springs to Townsend or Blossburg (or permit interconnections and delivery of Colstrip generation at the BPA Hot Springs substation).
Western Area Power Administration (WAPA)	Provide consultation on the relationship between the project and the power development program of the United States.
Department of the Interior Bureau of Indian Affairs (BIA)	Secretary of the Interior will not consider granting an easement for the corridor until the Kootenai and Salish Tribal Council has agreed.

Bureau of Land Management
(BLM)

BLM is responsible for designating right-of-way corridors and issuance of rights-of-way or temporary use permits for primary and ancillary facilities, including transmission lines, access roads, and staging areas. Also, leasing of federal coal, including development of all special requirements to be included in federal coal leases related to management and protection of all resources and post mining land use of the affected lands, authorization for land uses involved with plant siting, if public lands are involved.

Bureau of Reclamation (BR)

One water supply alternative is a negotiated service contract for Yellowtail Unit, Big-horn Lake water, under Bureau of Reclamation jurisdiction.

Fish and Wildlife Service
(FWS)

Issue permits for compatible use of lands and waters administered by FWS (e.g., National Bison Range near St. Ignatius) and advise other agencies on effects of their actions on fish and wildlife resources and habitats.

Office of Surface Mining
(OSM)

The lead federal agency for mine plan approval and supervision of activities under an approved mine plan.

Geological Survey (GS)

Confer with OSM on mining plan approval with respect to maximum economic recovery and conservation of the coal resources for federal coal leases in the Colstrip study area.

Environmental Protection
Agency (EPA)

Independent of the EIS, decide on issuance of Prevention of Significant Deterioration (PSI) permit for Colstrip 3 and 4. (The June 1978 EPA decision to deny the PSD permit is connected to litigation on whether the permit is required.) The EPA also reviews CoE "404" permits.

IV. MAJOR CORRIDOR OPTIONS

The following corridor options are analyzed in Part V, ANALYSIS SUMMARY.
(Also reference attached map.)

Corridor Options*

Applicant's Proposed Corridor (A-C₁-S-C₃-E₁-E₂-E₃-G-L)

Siegel Pass Alternative Corridor (A-C₁-S-C₃-C₄-E₁-E₂-E₃-H-J-M₁-F-M₃)

Great Falls Alternative Corridor (A-B-G-L)

Helena Alternative Corridor (A-C₁-S-C₃-C₄-F-I-J-K-L) (MacDonald Pass)

Helena Alternative Corridor (A-C₁-S-C₃-C₄-E₁-E₂-P-I-J-K-L) (Avon Valley)**

Townsend-Boulder Alternative Corridor** (A-C₁-O-D₃-D₄-I-J-K-L)

Trident-Siegel Pass Alternative Corridor (A-D₁-D₂-D₃-D₄-I-J-M₁-R-M₃)

Trident-Boulder Alternative Corridor (A-D₁-D₂-D₃-D₄-I-J-K-L)

Butte-Anaconda Alternative Corridor (A-D₁-Q-D₄-I-J-K-L)

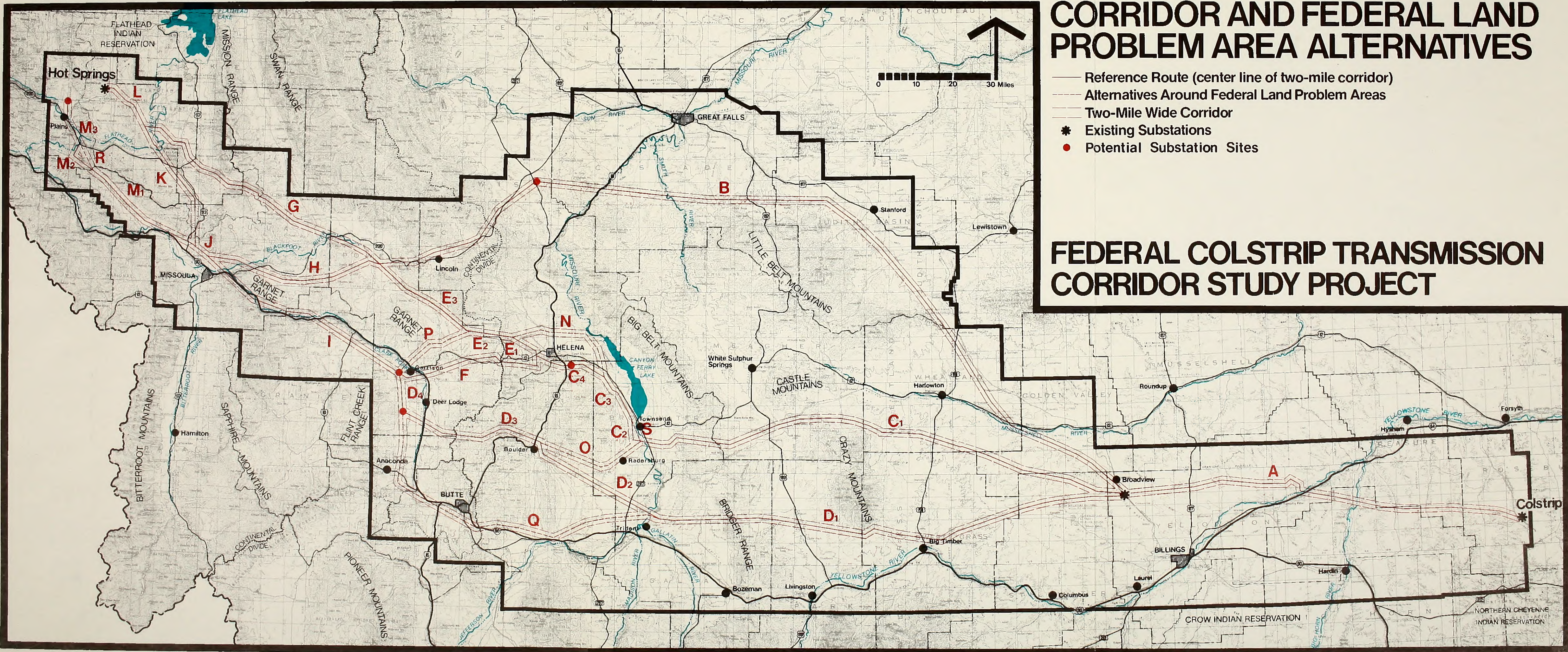
No Federally Approved Corridor

*Because sensitive issues surround either the crossing of the Flathead Indian Reservation over Section L-K or the crossing of Siegel Pass by Route N₁-R-M₃, a separate comparison of these corridors is included as Appendix 1. Depending upon jurisdictional and other considerations, any preferred corridor, short of segment J, would have these two routing options.

**BPA Build Option is analyzed as a possibility on these corridors.

V. ANALYSIS SUMMARY

The following 12 tables reflect the significant advantages and disadvantages of corridor options identified by BPA, BLM, and the Forest Service. They are based on evaluations of the corridor decision factors discussed earlier. Appendix 2 consists of two charts which summarize graphically the major corridor considerations.



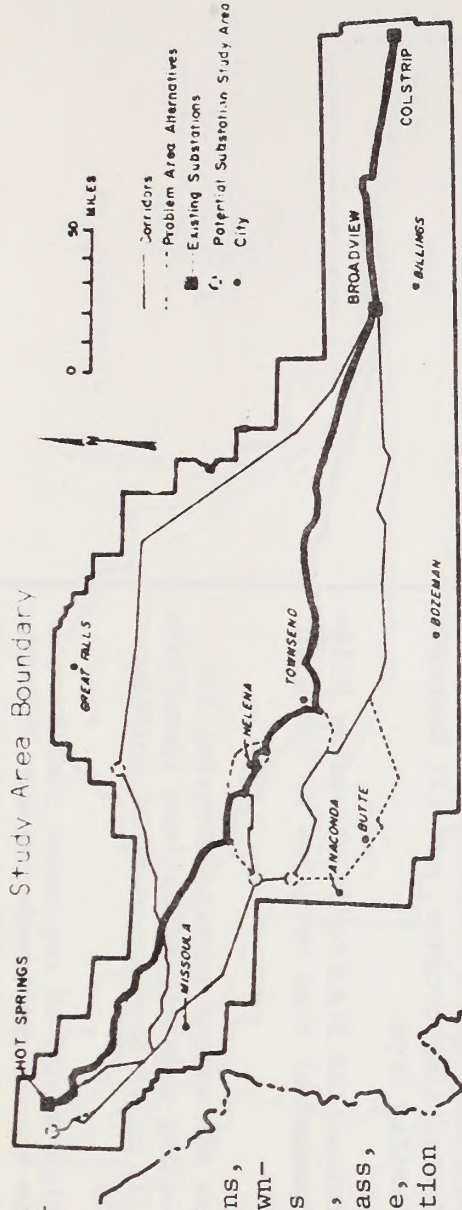
CORRIDOR AND FEDERAL LAND PROBLEM AREA ALTERNATIVES

- Reference Route (center line of two-mile corridor)
- Alternatives Around Federal Land Problem Areas
- Two-Mile Wide Corridor
- * Existing Substations
- Potential Substation Sites

FEDERAL COLSTRIP TRANSMISSION CORRIDOR STUDY PROJECT

Table 1. Applicant's Proposed Corridor

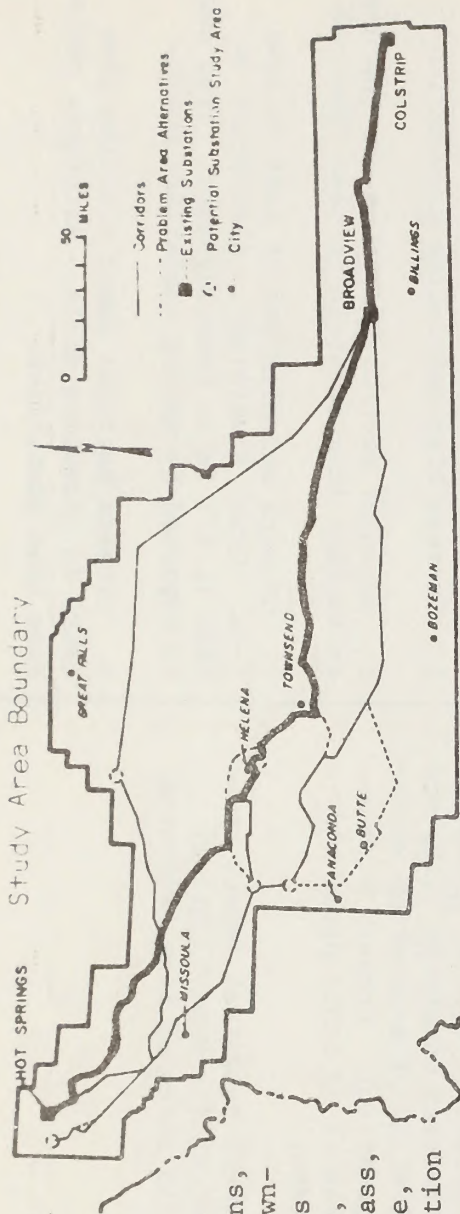
The applicant's proposed corridor starts at Colstrip and parallels an existing corridor to an existing substation at Broadview. It then proceeds westerly and north of the Crazy Mountains, crossing the Missouri River south of Townsend. From this point the corridor goes northwest, crossing south of Helena, over the Continental Divide at Mullan Pass, past Nevada Lake, Helmville, Placid Lake, and through the Flathead Indian Reservation to Hot Springs.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<ol style="list-style-type: none"> 1. Corridor approved by the Board of the Montana Department of Natural Resources and Conservation (BNR&C). 2. Lowest initial construction cost (214.3 million). 3. High adaptability to long range electrical plans of Montana and the Region. 4. Lowest potential impact in relation to human population density and proximity. 5. Crosses fewest water bodies (187). 	<ol style="list-style-type: none"> 1. Second highest potential overall environmental impact based upon interagency transmission analysis (TER). 2. Crosses 122 miles of land rated as having high visual impact potential, giving it the second highest impact on Visual Resources. 3. Second highest potential impact on Recreation Resources. Crosses greatest number of recreation waterways (110) and parallels 196 miles of recreation waterways (third greatest). Crosses within 2 miles or less of 32 State parks and recreation areas. 4. Third highest potential impact on commercial forest (crosses 92 miles, involving 3,919 acres of total forested land). 	<ol style="list-style-type: none"> 1. Shortest corridor (431.3 miles). 2. Crosses fewest miles of state and private land (326.5 miles). 3. Crosses 20 miles of irrigated farmland (midrange impact). 4. Crosses 85 miles of dryland (midrange impact). 5. Crosses Flathead Indian Reservation. 6. Board of Natural Resources has approved centerline from Colstrip to near Townsend. 7. Crosses northern end of RARE II area I-742 (Crazy Mountains). Allocation in RARE II EIS is to nonwilderness. Area could be bypassed by moving centerline north. 8. Crosses National Guard training area (BLM) in Limestone Hills. Alternate routes have been identified.

Table 1. Applicant's Proposed Corridor
(continued)

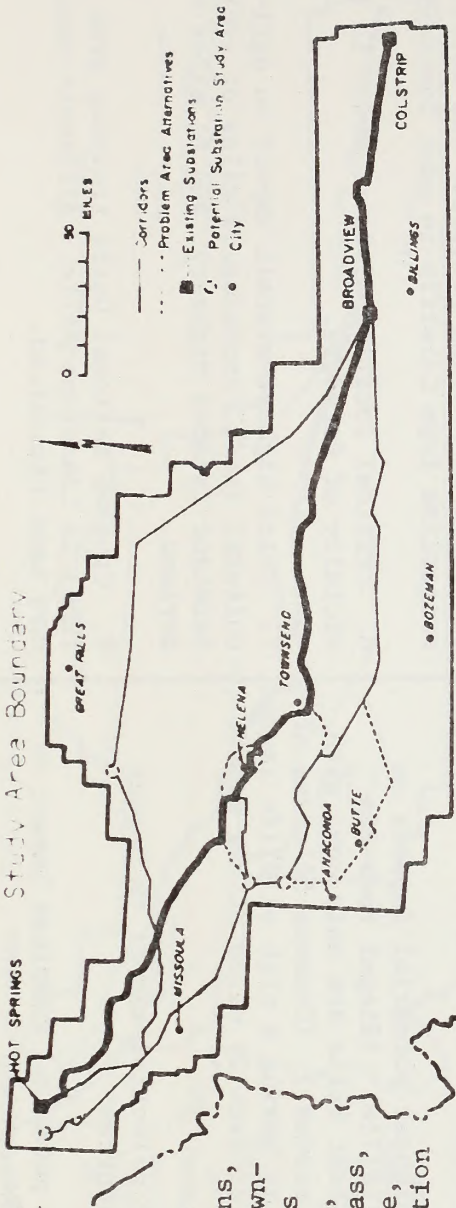
The applicant's proposed corridor starts at Colstrip and parallels an existing corridor to an existing substation at Broadview. It then proceeds westerly and north of the Crazy Mountains, crossing the Missouri River south of Townsend. From this point the corridor goes northwesterly, crossing south of Helena, over the Continental Divide at Mullan Pass, past Nevada Lake, Helmville, Placid Lake, and through the Flathead Indian Reservation to Hot Springs.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<ol style="list-style-type: none"> 5. Crosses Colorado-Unionville-Travis Planning Unit (USFS); the introduction of transmission line may conflict with scenic qualities of the area (recognized in draft Unit Plan and EIS.) 6. Crosses close to National Bison Range where it would intrude on view of Mission Mountains from self-guided auto tour. 7. Corridor crosses Blackfoot River (1) Recreation corridor, and (2) Resource Conservation Area. 8. Crosses the Blackfoot-Clearwater Wildlife Management area operated by State of Montana. 9. Has the second lowest potential for paralleling existing powerlines (parallels only 232 miles or 54 percent of corridor length). 10. High amount of expressed public concern in Helena and Ovando areas. Probable concern in Helmville and St. Ignatius areas. 	

Table 1. Applicant's Proposed Corridor
(continued)

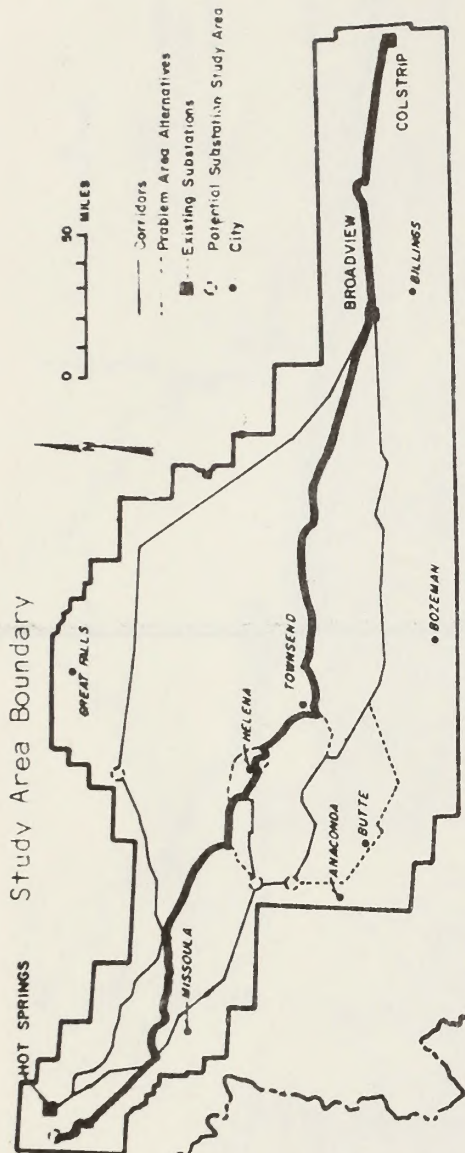
The applicant's proposed corridor starts at Colstrip and parallels an existing corridor to an existing substation at Broadview. It then proceeds westerly and north of the Crazy Mountains, crossing the Missouri River south of Townsend. From this point the corridor goes northwesterly, crossing south of Helena, over the Continental Divide at Mullan Pass, past Nevada Lake, Helmville, Placid Lake, and through the Flathead Indian Reservation to Hot Springs.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<p>11. Crosses 15 miles of grizzly bear critical habitat.</p> <p>12. Crossing the "Jocko Primitive Area" so classified by the Confederated Salish and Kootenai Tribes, would be a violation of existing policy and management.</p>	

Table 2. Siegel Pass Alternative
Corridor

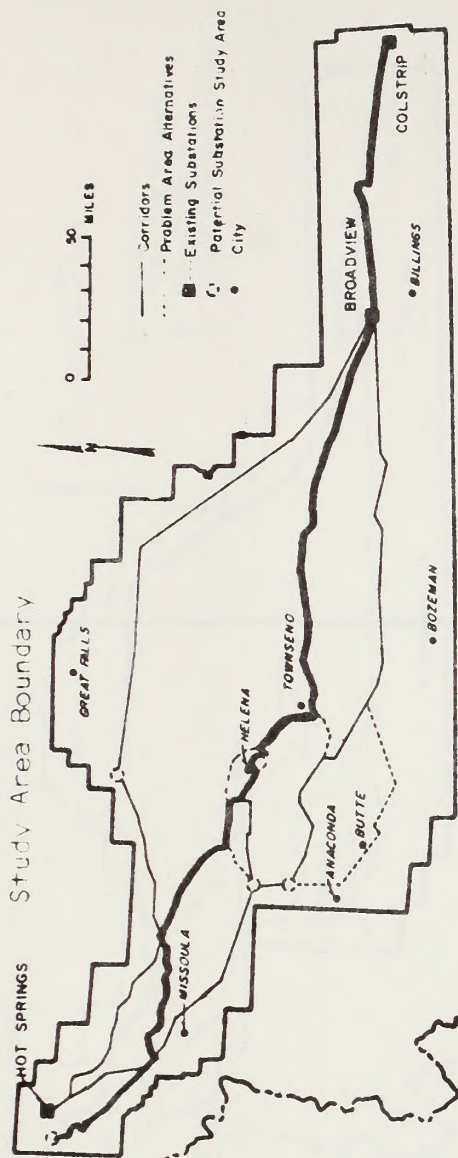
The Siegel Pass alternative is identical to the Applicant's proposed corridor from Colstrip to a point near Helmsville. From this point it proceeds west and north of the Garnet Range, crossing the Rattlesnake Drainage north of Missoula. It then continues northwest, crossing into the Flathead River Drainage near Siegel Creek and Paradise to a new substation site near the existing BPA 500-KV line near Plains.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<p>1. Common corridor with Applicant's Proposed Corridor from Colstrip to about 20 miles west of Lincoln (junction of segments G and H). This portion approved by Board of Natural Resources and Conservation.</p>	<p>1. Highest potential overall environmental impact based upon interagency transmission analysis (TER).</p> <p>2. Highest potential impact on Visual Resources (crosses 134 miles of land area rated as having high potential for visual impact.)</p> <p>3. Second highest incidence of paralleling scenic travelways (180 miles).</p> <p>4. Third highest potential impacts on Fish and Wildlife. (Siegel Pass-BPA Build and Great Falls are only ones with higher TER scores.) (Crosses 58 miles of area rated as having a high wildlife impact potential; crosses 21 miles of elk winter range.)</p> <p>5. Highest potential impact on Unique Natural Resources.</p> <p>6. Highest potential combined impact to Recreation Resources.</p>	<p>1. Low midrange construction cost (223.3 Million).</p> <p>2. Bypasses Flathead Indian Reservation.</p> <p>3. Most Federal lands traversed (76.1 miles).</p> <p>4. Would require new BNR&C corridor approval from Ovando area to Plains.</p> <p>5. Board of Natural Resources has approved centerline from Colstrip to near Townsend.</p> <p>6. Critical location problems exist in the vicinity of Paradise.</p> <p>7. Third highest overall impact on agricultural lands, crossing 35 miles of irrigated farmland (second highest), and 81 miles of dryland.</p> <p>8. Crosses National Guard training area (BLM) in Limestone Hills. Alternate routes have been identified.</p>

Table 2. Siegel Pass Alternative
Corridor (continued)

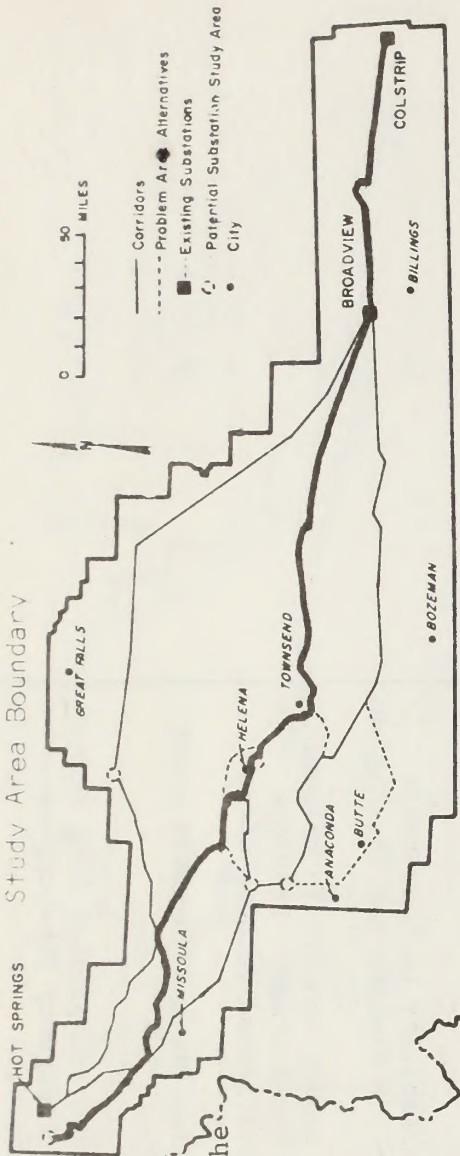
The Siegel Pass alternative is identical to the Applicant's proposed corridor from Colstrip to a point near Helmsville. From this point it proceeds west and north of the Garnet Range, crossing the Rattlesnake Drainage north of Missoula. It then continues northwest, crossing into the Flathead River Drainage near Siegel Creek and Paradise to a new substation site near the existing BPA 500-KV line near Plains.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<p>7. Highest potential impact on Vegetative Cover and commercial forest lands (crosses 106 miles involving 4,350 acres of total forested land.)</p> <p>8. Lowest potential for paralleling of existing transmission lines (175 miles or 39 percent of corridor length).</p> <p>9. Second highest potential impact on people and communities (Colstrip EIS).</p> <p>10. Lowest adaptability to long range electrical plans of Montana and the Region.</p> <p>11. Expressed public concern in Helena, Ovando, and Missoula areas. Probable concern in Helmsville and Potomac areas.</p> <p>12. Crosses Wales Creek Wilderness Study Area (BLM).</p> <p>13. Would disrupt established long term State-Federal interagency Elk-Logging Study (segment H).</p>	<p>9. Crosses RARE II area I-796 (Sacajawea Cutoff Planning Unit) and I-742 (Crazy Mountains); proposed allocation in final RARE II EIS is to nonwilderness.</p>

Table 2. Siegel Pass Alternative
Corridor (continued)

The Siegel Pass alternative is identical to the Applicant's proposed corridor from Colstrip to a point near Helmsville. From this point it proceeds west and north of the Garnet Range, crossing the Rattlesnake Drainage north of Missoula. It then continues northwest, crossing into the Flathead River Drainage near Siegel Creek and Paradise to a new substation site near the existing BPA 500-KV line near Plains.

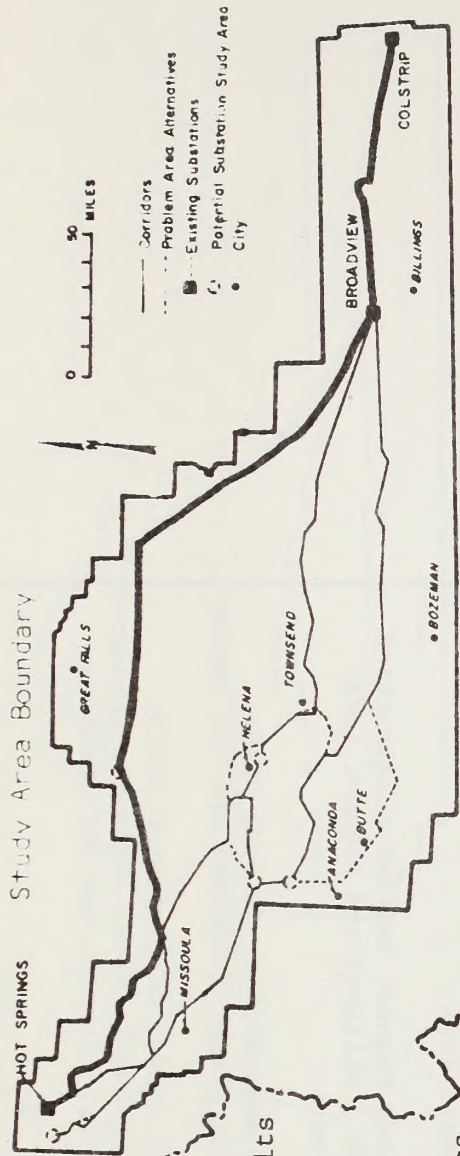


ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<p>14. Has greatest conflict with land management plans (6). Includes possible conflict with scenic qualities in Colorado-Unionville-Travis Planning Unit (USFS); most conflict with present guidance for the Ninemile Mill Planning Unit (USFS) which stresses aesthetic and recreation values.</p> <p>15. Would require a new substation near Plains.</p>	

Table 3. Great Falls Alternative

Corridor

The Great Falls alternative is identical to the Applicant's proposed corridor from Colstrip to Broadview. It then proceeds northwest through the Judith Basin, west along the north foothills of the Little Belts to the Continental Divide, then southwest through Rogers Pass and north of Lincoln to a point on the Applicant's proposed corridor near Helmville. From this point this alternative is identical to the Applicant's proposed corridor to Hot Springs.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<ol style="list-style-type: none"> 1. Second highest potential for paralleling existing transmission lines. 2. Least potential impact in irrigated farmland (13 miles). 3. Lowest combined impact on scenic travelways; crosses only 59 and parallels only 112 miles (the lowest incidence of paralleling). 4. Second lowest in overall socioeconomic impact (Colstrip EIS). 	<ol style="list-style-type: none"> 1. Highest overall potential impact on fish and wildlife. Crosses 81 miles of area rated as having a high wildlife impact potential, including 10 miles of elk winter range. 2. Second lowest potential impact on Visual Resources. Crosses close to National Bison Range where it would intrude on view of Mission Mountains from self-guided auto tour. 3. Crosses the Blackfoot (1) Recreation corridor, and (2) Resource Conservation Area. 4. Crosses greatest amount of nonirrigated cropland (crosses 102 miles). 5. Second highest potential impact on commercial forest (crosses 95 miles involving 4,045 acres of total forested land). 6. Crosses close to or intersects the greatest number of State parks and recreation areas (39). 	<ol style="list-style-type: none"> 1. Crosses Flathead Indian Reservation. 2. Fourth highest potential environmental impact based upon interagency transmission analysis (TER). 3. Least Federal lands crossed (27.9 miles). 4. Third longest corridor. 5. Would require BNR&C corridor approval.

Table 3. Great Falls Alternative Corridor (continued)

The Great Falls alternative is identical to the Applicant's proposed corridor from Colstrip to Broadview. It then proceeds northwest through the Judith Basin, west along the north foothills of the Little Belts to the Continental Divide, then southwest through Rogers Pass and north of Lincoln to a point on the Applicant's proposed corridor near Helmville. From this point this alternative is identical to the Applicant's proposed corridor to Hot Springs.

ADVANTAGES

DISADVANTAGES

OTHER CONSIDERATIONS

7. Highest potential single impact on grizzly bear critical habitat (32 miles).
8. Crosses greatest number of water bodies (261).
9. Crosses the Blackfoot Clearwater Wildlife Management Area operated by the State of Montana.
10. Highest total system power loss and annual power loss.
11. Second highest initial construction cost (230.7 Million) and highest total annual costs.
12. Low adaptability to long range electrical plans of Montana and the Region.
13. High amount of expressed public concern in Ovando area. Probable concern in Stanford, Lincoln, and St. Ignatius areas.

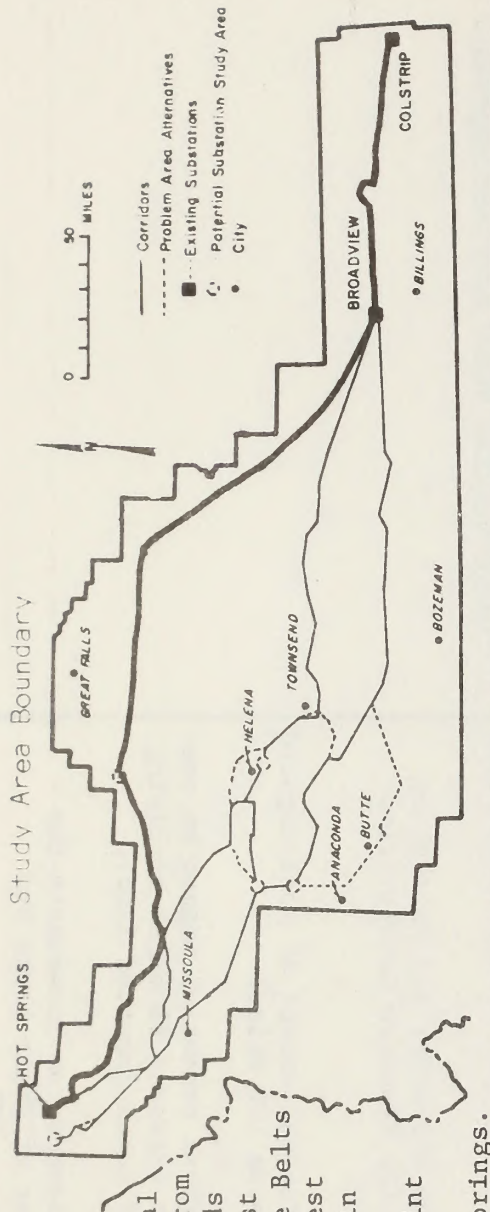
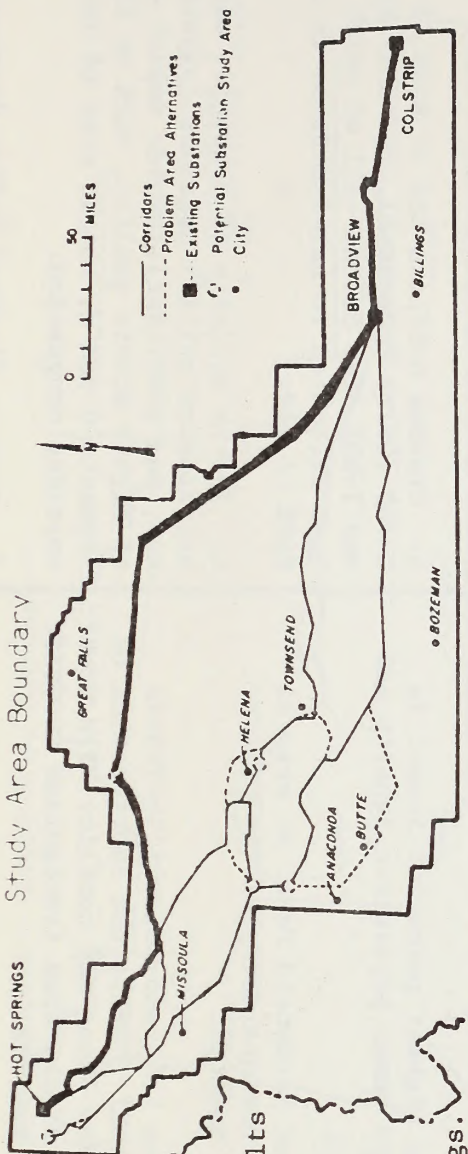


Table 3. Great Falls Alternative
Corridor (continued)

The Great Falls alternative is identical to the Applicant's proposed corridor from Colstrip to Broadview. It then proceeds northwest through the Judith Basin, west along the north foothills of the Little Belts to the Continental Divide, then southwest through Rogers Pass and north of Lincoln to a point on the Applicant's proposed corridor near Helmsville. From this point this alternative is identical to the Applicant's proposed corridor to Hot Springs.

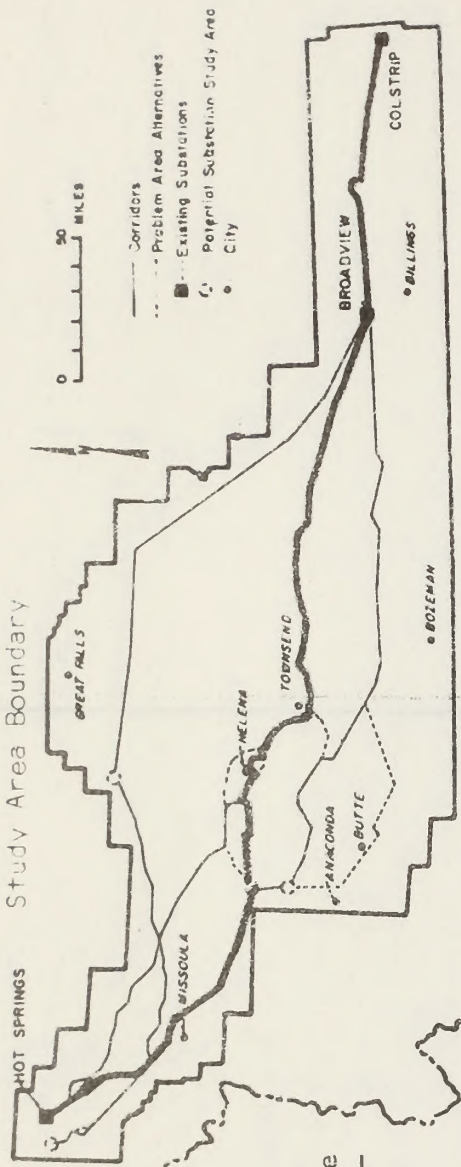


ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<p>14. Crossing the "Jocko Primitive Area," so classified by the Confederated Salish and Kootenai Tribes, would be a violation of existing policy and management.</p>	

Table 4. Helena Alternative Corridor
(MacDonald Pass)

The Helena Alternative (MacDonald Pass) is identical to the Applicant's proposed corridor from Colstrip to Helena. It then proceeds westerly through MacDonald Pass to Garrison. From this point in general it follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then north-erly through the Flathead Reservation to Hot Springs.

Study Area Boundary



ADVANTAGES

1. Corridor approved by BNR&C from Colstrip to Helena.
2. Second lowest potential impact on fish and wildlife. Crosses 33 miles of high value habitat, including 7 miles of elk winter range.
3. Lowest potential impact on vegetative cover and commercial forest land (crosses 49.8 miles involving 2,097 acres). (Same as Butte-Anaconda on commercial timber)
4. Second lowest overall impacts on agricultural lands (crosses 76 miles of dryland and 21 miles of irrigated land).

DISADVANTAGES

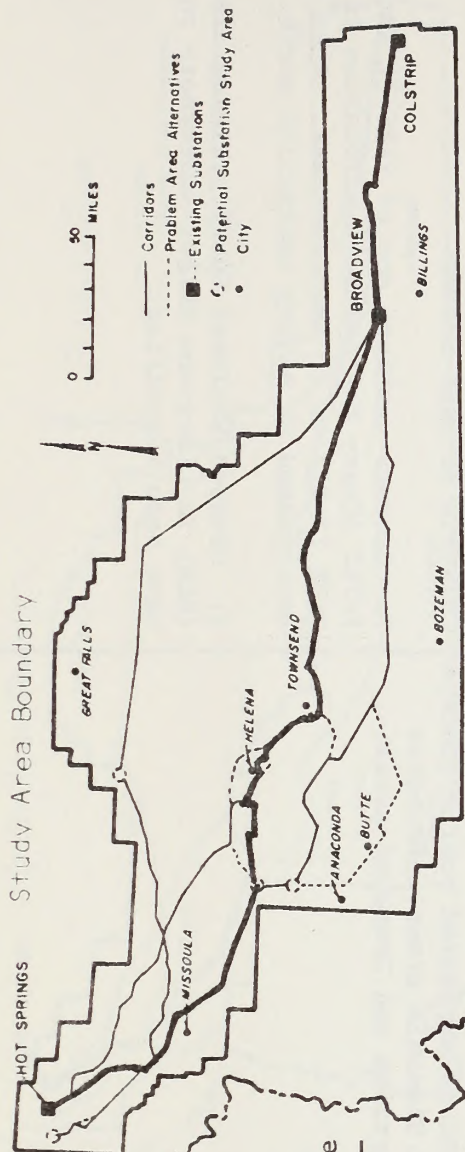
1. Crosses the greatest distance of soils with high sediment risk (21 miles) with poor suitability rating for transmission lines; mostly in Helena-MacDonald Pass area
2. Highest impact on historic trails; crosses 4 and parallels 49 miles.
3. High amount of expressed public concern in Helena and Missoula areas. Probable concerns in Garrison and Drummond areas.
4. Second highest potential impact in relation to human population density and proximity.
5. Crosses MacDonald Pass, an area of high environmental sensitivity from a number of aspects.
6. Crosses Colorado-Unionville-Travis Planning Unit (USFS); the introduction of transmission lines may conflict with scenic qualities of the area (recognized in draft Unit Plan and EIS.)

OTHER CONSIDERATIONS

1. Fifth highest potential environmental impact based on interagency transmission analysis (TER).
2. Low midrange initial construction costs (222.8 Million).
3. Third shortest corridor (445.3 miles).
4. Board of Natural Resources has approved centerline from Colstrip to near Townsend.
5. Crosses northern end of RARE II area I-742 (Crazy Mountains), and near areas I-608 and I-608 near Helena--all of which now have been allocated to nonwilderness in the final RARE II EIS.
6. In the vicinity of Missoula, use of established utility corridor (pipeline, freeway, and powerline), avoids impact on areas of higher scenic quality, such as found on segments G and H, but at cost of increased corridor congestion.

Table 4. Helena Alternative Corridor
(MacDonald Pass) (continued)

The Helena Alternative (MacDonald Pass) is identical to the Applicant's proposed corridor from Colstrip to Helena. It then proceeds westerly through MacDonald Pass to Garrison. From this point in general it follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then north-erly through the Flathead Reservation to Hot Springs.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
		<p>8. Board of Natural Resources has approved centerline from Colstrip to near Townsend.</p> <p>9. Crosses National Guard training area (BLM) in Limestone Hills. Alternate routes have been identified.</p>

Table 5. Helena Alternative Corridor
(Avon Valley)

The Helena Alternative (Avon Valley) is identical to the Applicant's proposed corridor from Colstrip to the Blossburg area west of the Continental Divide. From this point to an area near Garrison the corridor followed was generated by the Study Team as an alternative to crossing MacDonald Pass. From Garrison this corridor in general follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then northerly through the Flathead Reservation to Hot Springs.

ADVANTAGES

1. Corridor approved by BNR&C from Colstrip to west of Helena (Blossburg).
2. Avoids MacDonald Pass, a key issue with other Helena (MacDonald Pass) alternative.
3. Lowest overall potential impact on agricultural lands; (crosses 78 miles of dryland and 19 miles of irrigated farmland) (tied in rating with Townsend-Boulder Alternative Corridor).
4. Lowest potential impact on fish and wildlife. Crosses 31 miles of high value wildlife habitat. Only 1 mile of elk winter range/key elk areas influenced.

DISADVANTAGES

1. Highest potential impact on National Register and historic sites (crossing near 43). Crosses 4 historic trails and parallels 30 miles.
2. Crosses Colorado-Unionville-Travis Planning Unit (USFS); the introduction of transmission line may conflict with scenic qualities of the area (recognized in draft Unit Plan and EIS).
3. High amount of expressed public concern in Helena and Missoula areas. Probable concern in Garrison and Drummond areas.

OTHER CONSIDERATIONS

1. Relatively low (4th lowest) overall potential environmental impact based upon interagency transmission analysis (TER).
2. Crosses 39.4 miles of Federal land.
3. Midrange construction cost (222.6 Million)
4. Crosses Flathead Indian Reservation.
5. BNR&C has approved centerline from Colstrip to near Helena.
6. Crosses northern end of RARE II area I-742 (Crazy Mountains). Allocation in RARE II EIS is to nonwilderness. Area could be bypassed by moving centerline north.
7. Crosses National Guard training area (BLM) in Limestone Hills. Alternate routes have been identified.

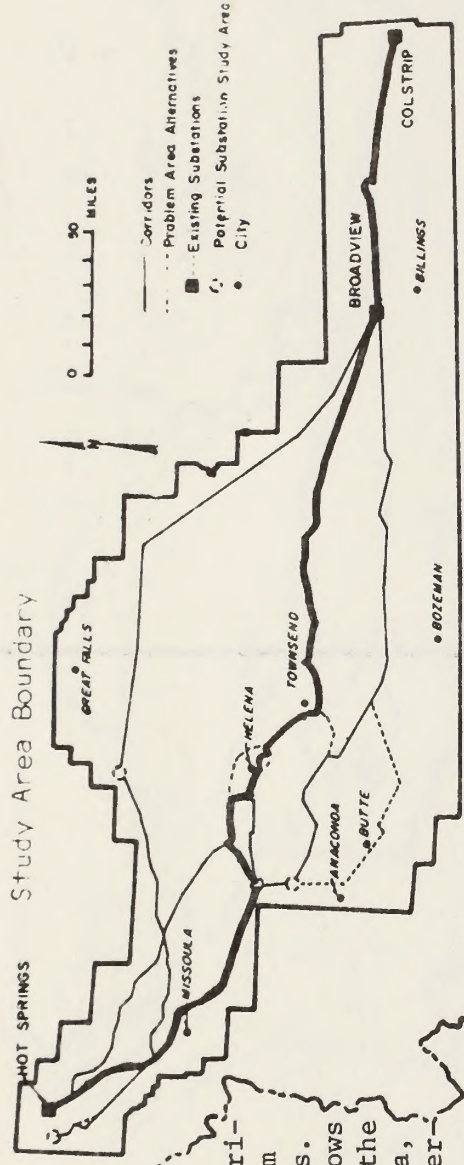


Table 6. Helena Alternative Corridor
(Avon Valley) - BPA - Build Alt.
(Blossburg)

This alternative is identical to the Helena Alternative (Avon Valley) except that the Hot Springs to Garrison portion of the line would be built on existing right-of-way by BPA on double circuit towers. From Garrison to the Applicant's proposed corridor in the Blossburg area, BPA would build the line on new right-of-way on double circuit towers. East of Blossburg the lines would be constructed by the Applicant.

ADVANTAGES

1. This is the same corridor as the Helena Alternative Corridor (Avon Valley). The same advantages as those listed in Table 5 apply; plus the following additions:
2. BPA-Build double circuit towers require less right-of-way and are not guyed. This reduces potential amount of forest clearing, agricultural land removed from production and visual impacts in forested landscapes. No large differences would result.
3. Adaptable to future expansion or upgrading capacity of line.
4. Lower power loss and lowest costs for energy losses for total system.

DISADVANTAGES

1. Same as Table 5; in addition:
2. BPA-Build double circuit towers are approximately 50 feet taller than MPC single circuit towers. This would increase one aspect of potential visual impacts.

OTHER CONSIDERATIONS

1. Overall potential environmental impact essentially the same as in Table 5. Same comments, except:
2. High-midrange initial construction costs (\$227.6 million).
3. BPA construction on 141 miles.
4. BPA-Build portion of corridor would not be subject to Montana Facility Siting Act.
5. Existing corridor through Flathead Indian Reservation. Existing BPA right-of-way from Garrison to Hot Springs.

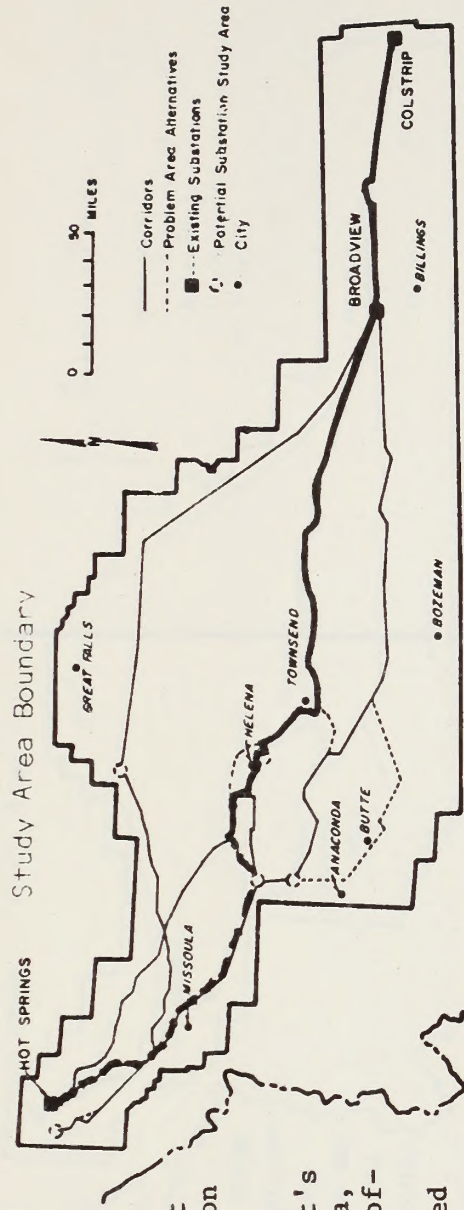


Table 6. Helena Alternative Corridor
(Avon Valley) - BPA - Build Alt.
(Blossburg) (continued)

This alternative is identical to the Helena Alternative (Avon Valley) except that the Hot Springs to Garrison portion of the line would be built on existing right-of-way by BPA on double circuit towers. From Garrison to the Applicant's proposed corridor in the Blossburg area, BPA would build the line on new right-of-way on double circuit towers. East of Blossburg the lines would be constructed by the Applicant.

ADVANTAGES

5. Lowest total annual costs.
6. High adaptability to long range electric plans of Montana and the region.

DISADVANTAGES

OTHER CONSIDERATIONS

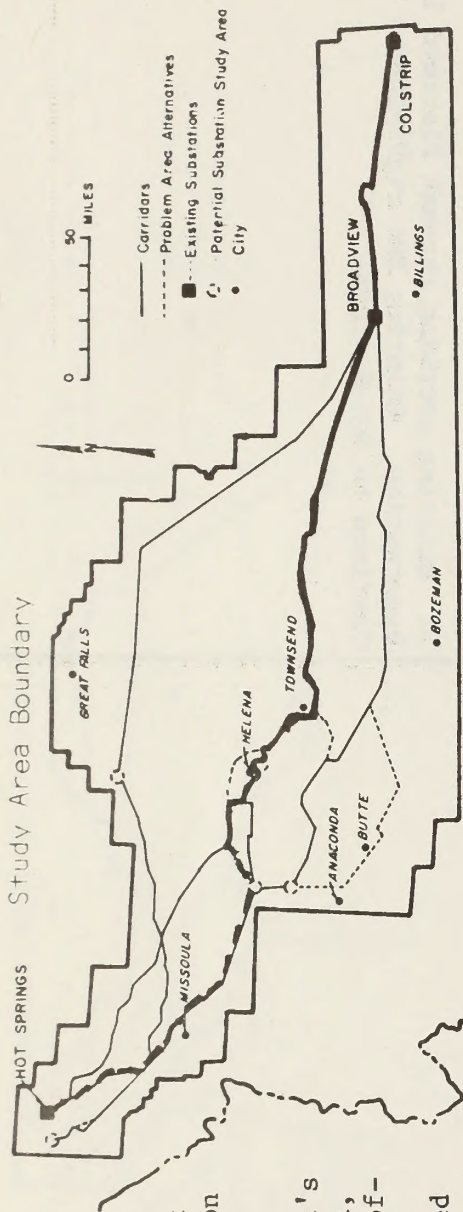


Table 7. Townsend-Boulder Alternative

Corridor

The Townsend-Boulder Alternative would be identical to the Applicant's proposed corridor from Colstrip to Townsend. It then proceeds westerly on a corridor generated by the Study Team which crosses the Crow Creek Drainage near Radersburg, then continuing to the vicinity of Boulder. From Boulder the corridor continues on a previously established location to Garrison. From Garrison this corridor in general follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then northerly through the Flathead Indian Reservation to Hot Springs.

ADVANTAGES

1. Third least potential environmental impact based upon interagency transmission analysis (TER). (Second lowest when benefits from paralleling existing corridors are not factored into the analysis).
2. Lowest potential impact on agricultural land (crosses 76 acres of dryland and 20 acres of irrigated land. Tied in TER score with Helena-Avon Valley).
3. Corridor approved by BNR&C from Colstrip to Townsend.
4. Second lowest overall visual impact (tied with Great Falls Alternative).

DISADVANTAGES

1. One of the three lowest potentials for paralleling existing transmission lines (240 miles of existing lines; 54 percent of corridor length).
2. Crosses 52 miles of high value fish and wildlife habitat. Second highest potential impact on elk winter range/key elk areas (14 miles winter range; 12 miles key areas).
3. Expressed public concern in Missoula area.

OTHER CONSIDERATIONS

1. Crosses Flathead Indian Reservation.
2. Second lowest initial construction cost (221.8 Million).
3. Second shortest overall length (443.2 miles).
4. Third highest amount of Federal lands crossed (52 miles).
5. May require BNR&C approval from Townsend to Hot Springs.
6. BNR&C has approved centerline from Colstrip to near Townsend.
7. Crosses Basin Planning Unit in Deer-lodge National Forest. No specific guidance on transmission lines in 1976 Unit Plan.

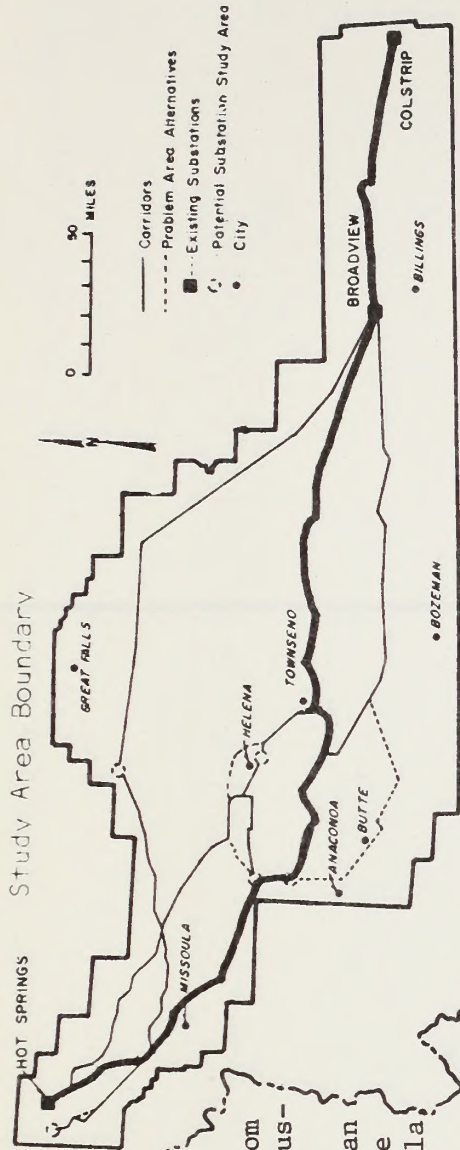


Table 7. Townsend-Boulder Alternative

Corridor (continued)

The Townsend-Boulder Alternative would be identical to the Applicant's proposed corridor from Colstrip to Townsend. It then proceeds westerly on a corridor generated by the Study Team which crosses the Crow Creek Drainage near Radersburg, then continuing to the vicinity of Boulder. From Boulder the corridor continues on a previously established location to Garrison. From Garrison this corridor in general follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then northerly through the Flathead Indian Reservation to Hot Springs.

ADVANTAGES

5. Avoids impacts and public land conflicts in Helena area, as well as Limestone Hills National Guard training area near Townsend.
6. Relatively low impacts on scenic travelways (crosses 68 and parallels 121 miles; second lowest).
7. Low power loss for total system.
8. Low energy loss costs and power losses.
9. Highest adaptability to long range electric plans of Montana and the Region.

DISADVANTAGES

OTHER CONSIDERATIONS

8. Crosses northern end of RARE II area I-742 (Crazy Mountains). Allocation in RARE II EIS is to nonwilderness. Area could be bypassed by moving centerline north.

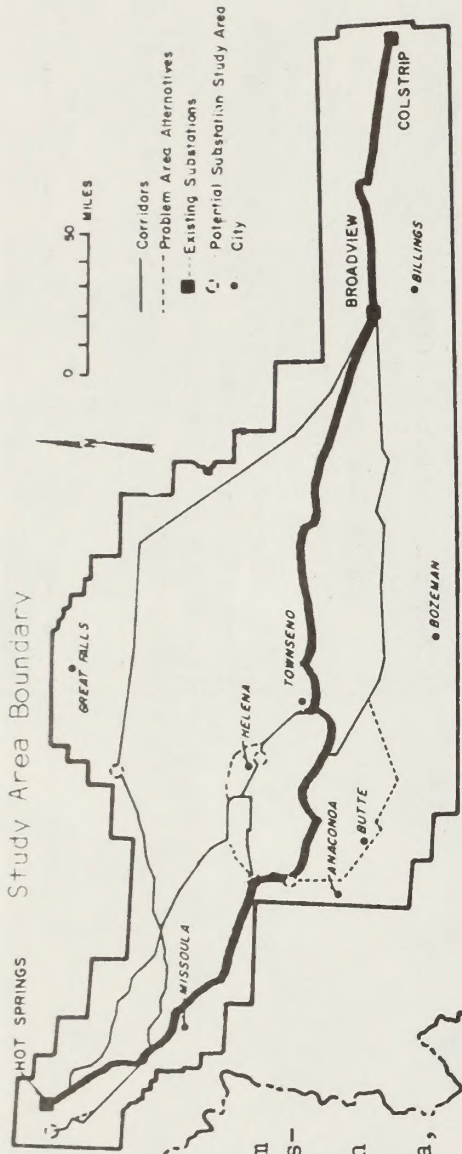
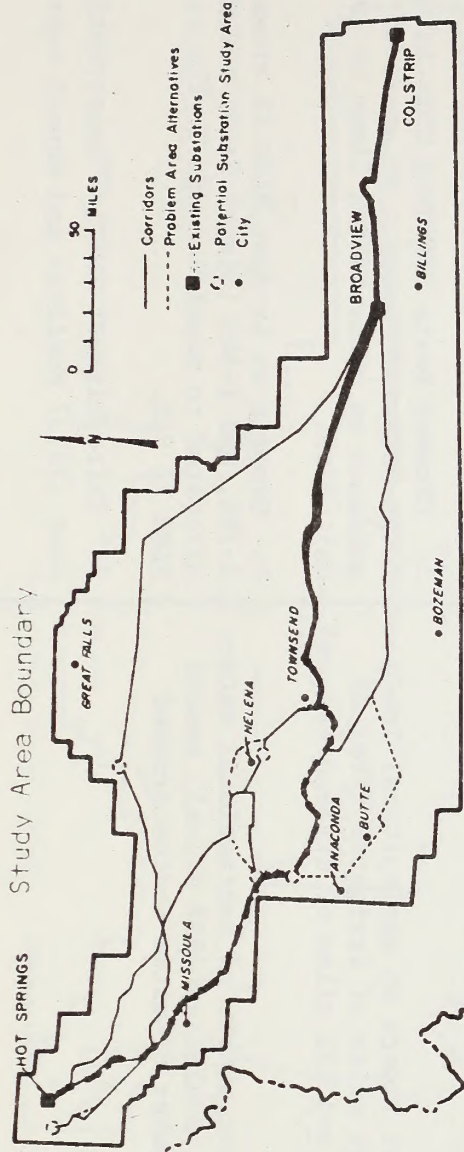


Table 8.

Townsend-Boulder Alternative
Corridor - BPA-Build Alternative (Townsend)

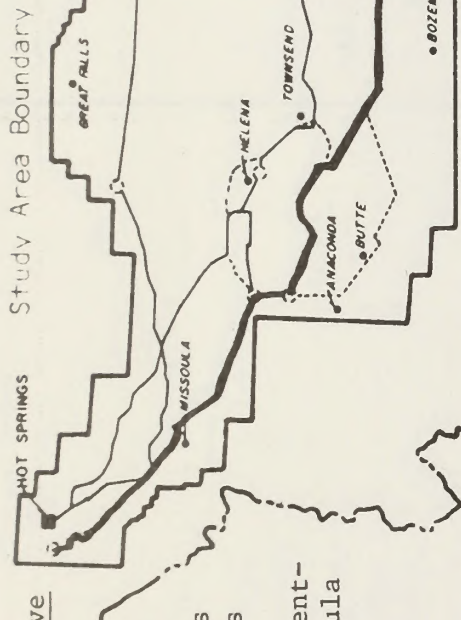
This Alternative is identical to the Townsend-Boulder Alternative except that the Hot Springs to Garrison portion of of-way by BPA on double circuit towers. From Garrison to the Applicant's proposed corridor near Townsend, BPA would build the line on new right-of-way. East of Townsend, the lines would be constructed by the Applicant.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<ol style="list-style-type: none"> 1. This is the same corridor as the Townsend-Boulder Alternative Corridor. The same advantages as those listed in Table 7 would apply; plus the following additions: 2. BPA-Build double circuit towers require less right-of-way and are not guyed. This reduces potential amount of forest clearing; agricultural land removed from production and visual impacts in forested landscapes. No large differences would result. 3. Adaptable to future expansion or upgrading of line. 	<ol style="list-style-type: none"> 1. Same as Table 7; in addition: 2. BPA-build double circuit towers are approximately 50 feet taller than MPC single circuit towers. This would increase one aspect of potential visual impacts. 	<ol style="list-style-type: none"> 1. Overall potential environmental impacts essentially the same as in Table 7. Same comments, except: 2. High midrange initial construction costs (229.2 Million). 3. BPA construction on 198 miles. 4. BPA-Build portion of corridor would not be subject to Montana Facility Siting Act. 5. Existing corridor through Flathead Indian Reservation. Existing BPA right-of-way from Garrison to Hot Springs.

Table 9. Trident-Siegel Pass Alternative Corridor

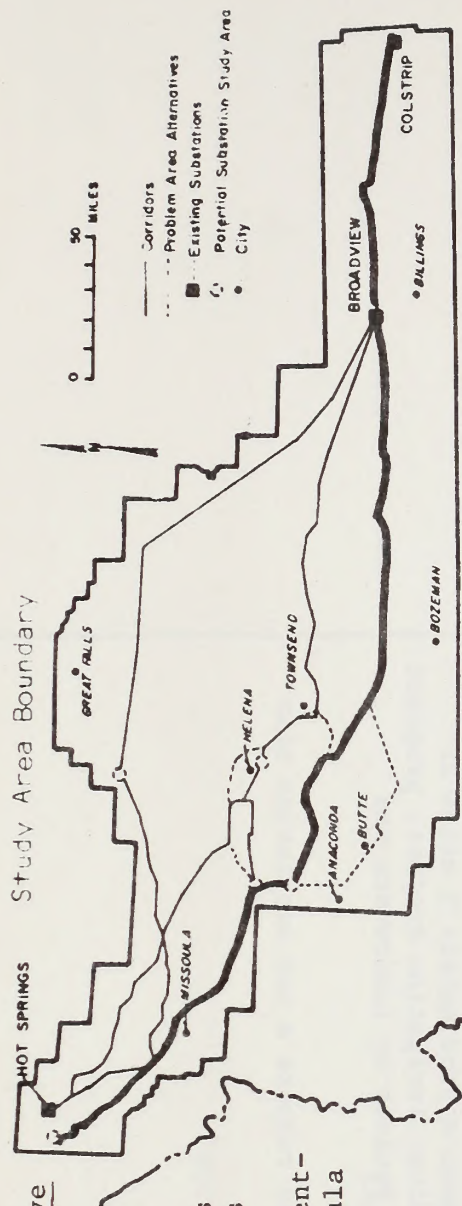
The Trident-Siegel Alternative was not included in the TER. However, the Decision Option Committee has included it as the least impact corridor which bypasses the Flathead Indian Reservation. This corridor would be identical to the Trident-Boulder Corridor from Colstrip to Missoula and the Siegel Pass Alternative from Missoula to the vicinity of Plains.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<p>1. One of the three lowest potential impacts to high value recreation resources and unique natural resources. Lowest potential impact on recreational waterways (crosses 71).</p> <p>2. Relatively low potential impact (along with Butte-Anaconda, Trident-Boulder alternatives) on historic trails, crossing one trail and paralleling four miles).</p> <p>3. Relatively low power loss and energy loss costs.</p> <p>4. Avoids all major communities except Missoula.</p>	<p>1. Third highest overall environmental impact based upon interagency transmission analysis (TER). Essentially equal to Applicant's Proposed Corridor--second highest.</p> <p>2. Second highest potential fish and wildlife impacts (crosses 64 miles of high value habitat including 24 miles of elk winter range and 14 miles of key elk areas, giving it the single highest impact on elk habitat).</p> <p>3. Highest impact on agricultural lands (crosses 36 miles of irrigated farmland (highest) and 101 miles of dryland (second highest)).</p> <p>4. Greatest number of recreational waterway miles paralleled (233 miles); second highest number of water bodies crossed (235).</p>	<p>1. Bypasses Flathead Indian Reservation.</p> <p>2. Second longest corridor (449.8 miles).</p> <p>3. Corridor not approved by BNR&C.</p> <p>4. Gallatin National Forest Northern Bridger Planning Unit management direction provides that any additional power lines will use existing right-of-way across Flathead Pass.</p> <p>5. Crosses Basin Planning Unit in Deer-lodge National Forest. No specific guidance on transmission lines in 1976 Unit Plan.</p> <p>6. Crosses on or near RARE II areas I-795, I-796, and I-543 (Siegel Pass) recently allocated to nonwilderness in the final RARE II EIS.</p> <p>7. Third highest initial construction cost (227.7 Million) and annual cost.</p>

Table 9. Trident-Siegel Pass Alternative Corridor (continued)

The Trident-Siegel Alternative was not included in the TER. However, the Decision Option Committee has included it as the least impact corridor which bypasses the Flathead Indian Reservation. This corridor would be identical to the Trident-Boulder Corridor from Colstrip to Missoula and the Siegel Pass Alternative from Missoula to the vicinity of Plains.

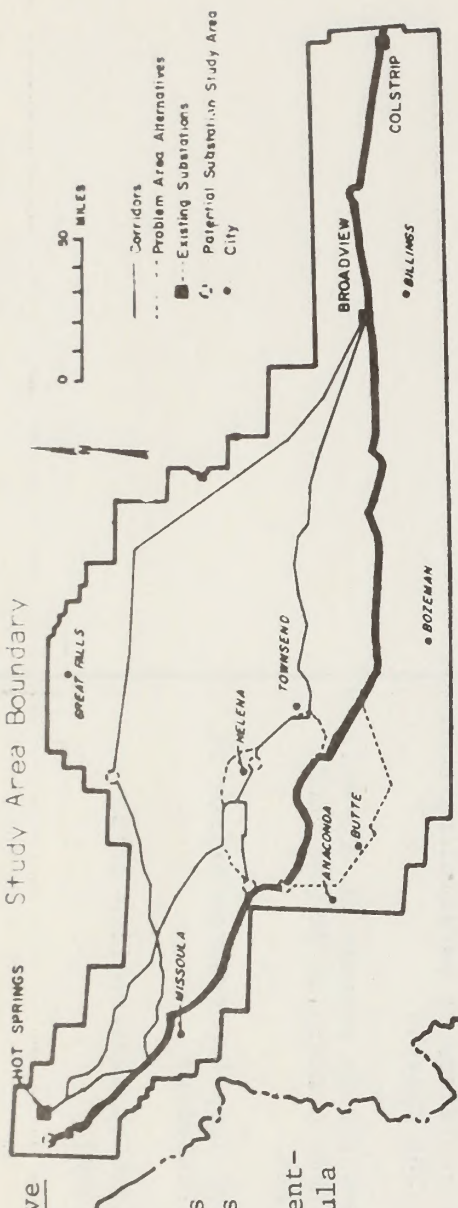


ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<ol style="list-style-type: none"> 5. Crosses Ninemile Mill Planning Unit on the Lolo National Forest. May conflict with management objectives which stress aesthetic and recreation values. 6. Crosses north end of Hailstone Wildlife Refuge. 7. Crosses proposed HCRS-USFS recreation composite near Flathead Pass (Bridger Mtns) 8. Highest incidence of paralleling scenic travelways (188 miles). 9. Expressed public concern in Missoula area. Probable concern in Boulder and Drummond areas. 10. Critical location problem exists in vicinity of Paradise. 11. High initial construction costs (227.7 Million). 	<ol style="list-style-type: none"> 8. Special tower design requirements in Flathead Pass may create problems with reliability and maintenance of service.

Table 9. Trident-Siegel Pass Alternative Corridor (continued)

The Trident-Siegel Alternative was not included in the TER. However, the Decision Option Committee has included it as the least impact corridor which bypasses the Flathead Indian Reservation. This corridor would be identical to the Trident-Boulder Corridor from Colstrip to Missoula and the Siegel Pass Alternative from Missoula to the vicinity of Plains.

Study Area Boundary

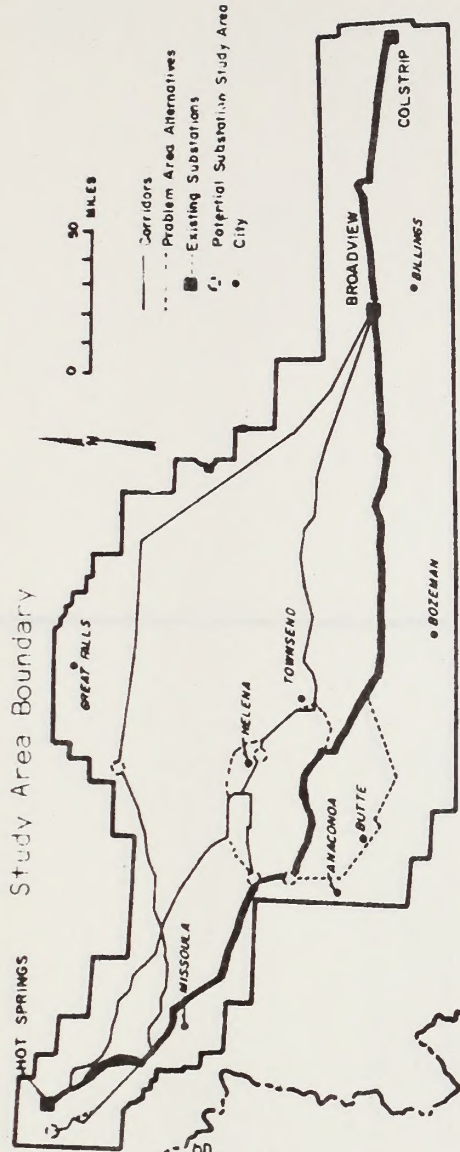


ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
	<p>12. Low adaptability to long range electrical plans of Montana and the Region.</p> <p>13. The physical limitations of Flathead Pass, which already contains two power lines, would create a very high impact on the environment, increase costs, and interfere with the electric service provided by existing lines. Additional expansion may not be practical.</p> <p>14. Crosses approximately 5 miles of Boulder River Irrigation Project, proposed south of Boulder by landowners and USDA-SCS.</p> <p>15. Would require a new substation near Plains.</p>	

Table 10. Trident-Boulder Alternative

Corridor

The Trident-Boulder Alternative is identical to the Applicant's proposed corridor from Colstrip to Broadview. It then proceeds westerly passing through Flathead Pass north of Bozeman and crossing the Missouri River near Trident. From Trident it then continues northwesterly past Boulder and Basin to Garrison. From Garrison this corridor in general follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then northerly through the Flathead Reservation to Hot Springs.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<ol style="list-style-type: none"> 1. Lowest overall potential environmental impact based upon interagency transmission analysis (TER). 	<ol style="list-style-type: none"> 1. Crosses northern edge of Hailstone Wildlife Refuge. 	<ol style="list-style-type: none"> 1. Midrange in overall length (445 miles).
<ol style="list-style-type: none"> 2. Lowest potential impact on recreation resources, visual resources, unique natural resources, and has least potential influence on National Register and historic sites (9). 	<ol style="list-style-type: none"> 2. Crosses HCRS-USFS proposed recreation composite (Bridger Mountains near Flathead Pass). 	<ol style="list-style-type: none"> 2. Crosses the Flathead Indian Reservation.
<ol style="list-style-type: none"> 3. Third highest amount of potential parallel location, (320 miles or 72 percent of corridor length). 	<ol style="list-style-type: none"> 3. Third highest potential impact on agricultural lands (crosses 25 miles of irrigated farmland and 97 miles of dryland). 	<ol style="list-style-type: none"> 3. Low midrange construction costs (224.7 Million).
<ol style="list-style-type: none"> 4. Low energy loss costs and power losses. 	<ol style="list-style-type: none"> 4. Crosses approximately 5 miles of Boulder River Irrigation Project, proposed south of Boulder by landowners and USDA-SCS. 	<ol style="list-style-type: none"> 4. Low amount of Federal land crossed (36.2 miles).
<ol style="list-style-type: none"> 5. Avoids all major communities except Missoula. 	<ol style="list-style-type: none"> 5. Expressed public concern in Missoula area. Probable concern in Boulder and Drummond areas. 	<ol style="list-style-type: none"> 5. Crosses Basin Planning Unit in Deerlodge National Forest. No specific guidance on transmission lines in 1976 Unit Plan.
	<ol style="list-style-type: none"> 6. The physical limitations of Flathead Pass, which already contains two powerlines, would create a very high impact on the environment, increase costs, and interfere with the electric service provided by existing lines. Additional expansion may not be practical. 	<ol style="list-style-type: none"> 6. Crosses near RARE II area I-543 (Flathead Pass), now allocated to nonwilderness in the final RARE II EIS.
		<ol style="list-style-type: none"> 7. Gallatin National Forest Northern Bridger Planning Unit management direction provides that any additional power lines will use existing right-of-way across Flathead Pass.

Table 10. (continued)

Trident-Boulder Alternative Corridor

The Trident-Boulder Alternative is identical to the Applicant's proposed corridor from Colstrip to Broadview. It then proceeds westerly passing through Flathead Pass north of Bozeman and crossing the Missouri River near Trident. From Trident it then continues northwesterly past Boulder and Basin to Garrison. From Garrison this corridor in general follows an existing corridor northwesterly, across the Lower Rattlesnake Drainage north of Missoula, and then northerly through the Flathead Reservation to Hot Springs.

ADVANTAGES

DISADVANTAGES

OTHER CONSIDERATIONS

8. Special tower design requirements in Flathead Pass may create problems with reliability and maintenance of service.

9. Would require BNR&C corridor approval.

Study Area Boundary

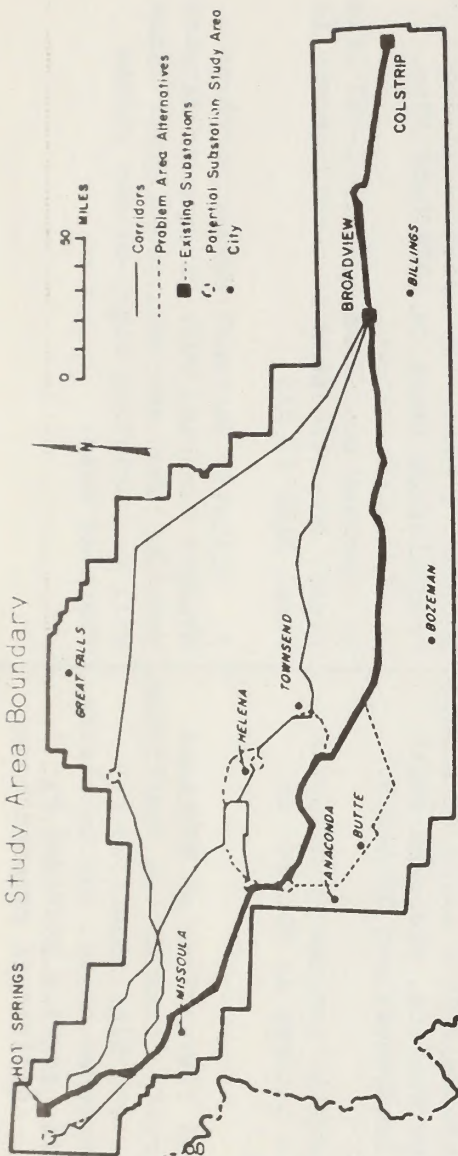
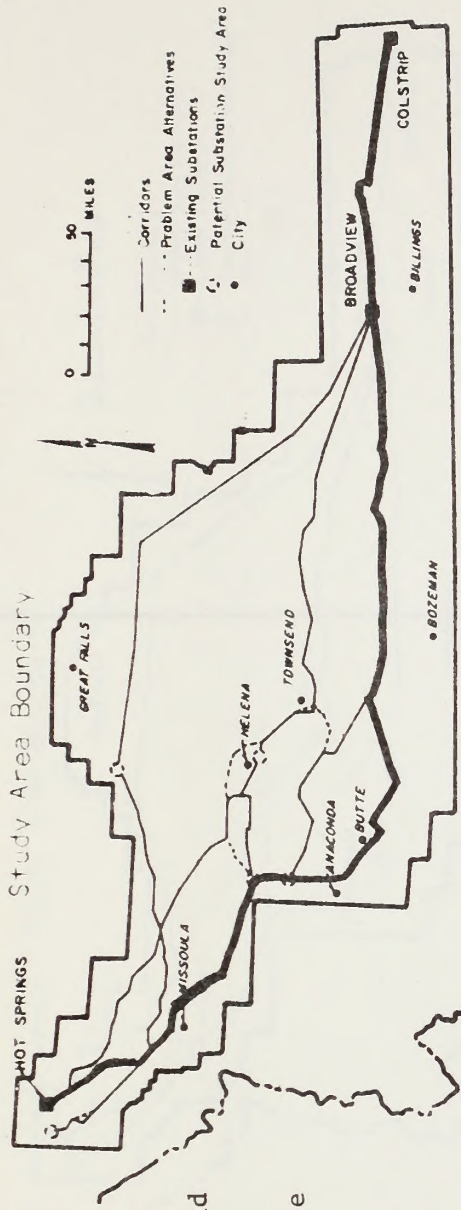


Table 11. Butte-Anaconda Alternative

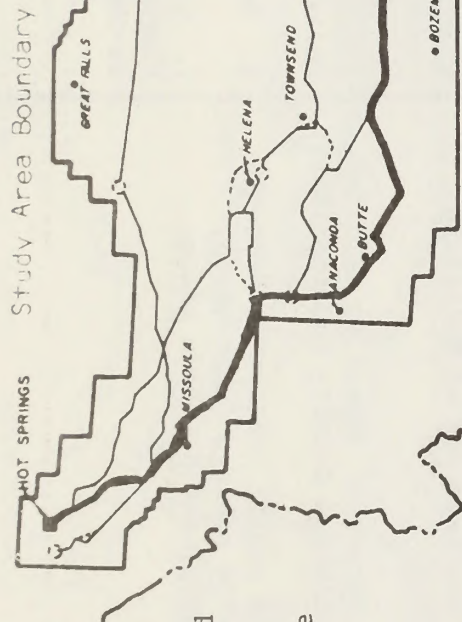
The Butte-Anaconda Alternative is identical to the Trident-Boulder Alternative from Colstrip to Trident and from Garrison to Hot Springs. From Trident to Garrison, however, this corridor passes in the vicinity of Butte and Anaconda rather than Boulder and Basin.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<ol style="list-style-type: none"> 1. Second lowest potential overall environmental impact based upon interagency transmission analysis (TER). 2. Second lowest amount of elk winter range crossed (5 miles), and no key elk areas involved. Crosses only 36 miles of high value fish and wildlife habitat. 3. Lowest potential impact on unique natural resources (same as Trident-Boulder). 4. Second lowest potential impact on commercial forest land (crosses 50 miles of Forest involving 2,016 acres of overall forested land). 5. Highest potential for paralleling existing transmission lines (385 miles or 83 percent of corridor length) 	<ol style="list-style-type: none"> 1. Highest initial construction cost (233.1 Million). 2. Second highest potential overall impacts on agricultural lands (crosses 26 miles of irrigated farmland and 97 miles of dryland). 3. Crosses proposed HCRS-USFS recreation composite near the Flathead Pass (Bridger Mountains). 4. Crosses northern end of Hailstone Wildlife Refuge. 5. Highest potential impact in relation to human population density and proximity. 6. Expressed public concern in Missoula area. Probable concern in Drummond, Garrison, Butte, and Anaconda areas. 	<ol style="list-style-type: none"> 1. Second lowest amount of federal land crossed (30 miles). 2. Crosses Flathead Indian Reservation. 3. Greatest overall length (461 miles). 4. Gallatin National Forest Northern Bridger Planning Unit management direction provides that any additional power lines will use existing right-of-way across Flathead Pass. 5. Special tower design requirements in Flathead Pass may create problems with reliability and maintenance of service. 6. Would require BNR&C corridor approval. 7. Crosses near RARE II area I-543, Flathead Pass, now allocated to nonwilderness in the final RARE II EIS.

Table 11. Butte-Anaconda Alternative
(continued)

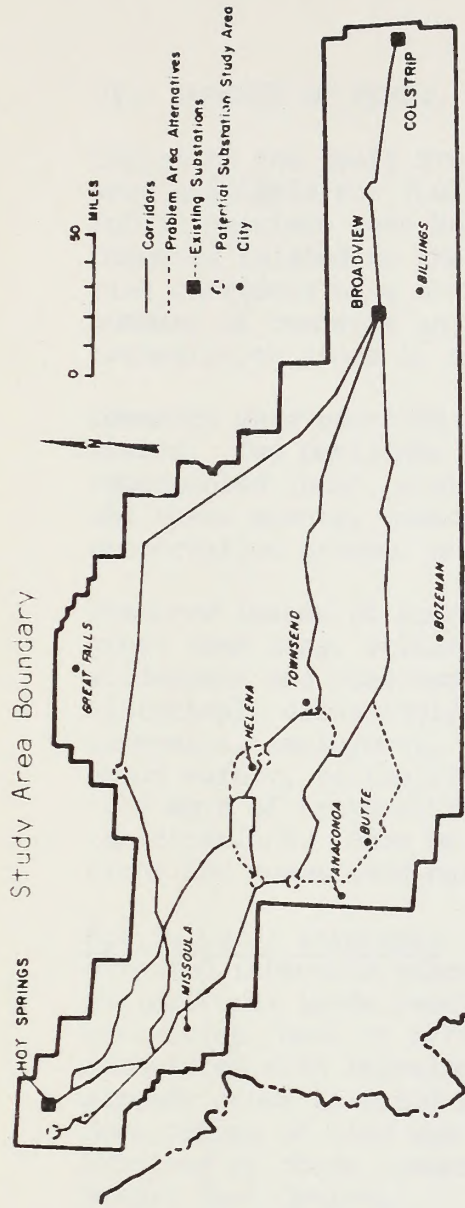
The Butte-Anaconda Alternative is identical to the Trident-Boulder Alternative from Colstrip to Trident and from Garrison to Hot Springs. From Trident to Garrison, however, this corridor passes in the vicinity of Butte and Anaconda rather than Boulder and Basin.



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<p>6. Fewest potential conflicts with land management plans.</p> <p>7. One of the lowest potential impacts on National Register and historic sites (10).</p> <p>8. Fewest State Parks and recreation areas (21) potentially influenced and only one historic trail crossed and four miles paralleled.</p> <p>9. Relatively low power loss and energy loss costs.</p>	<p>7. The physical limitations of Flathead Pass, which already contains two power lines, would create a very high impact on the environment, increase costs, and interfere with the electric service provided by existing lines. Additional expansion may not be practical.</p>	

Table 12. Denial of Federal Corridor

Decision Option



ADVANTAGES	DISADVANTAGES	OTHER CONSIDERATIONS
<ol style="list-style-type: none"> 1. Avoids the projected environmental impacts of any build option. 	<ol style="list-style-type: none"> 1. Would likely lead to some need for development of alternative energy sources such as nuclear, fossil fuels, creating unknown environmental impacts elsewhere. 2. Would cancel one of the few alternate (fossil fuel) electrical generation systems in the region that would alleviate dependence of northwest on hydro-electric generation. 3. Possible future power shortages in Montana. 4. May reduce an opportunity for improvement of the reliability of electric service to Montana and northwest. 5. Would lose potential short term employment benefits inherent in line construction. 	<ol style="list-style-type: none"> 1. Equivalent to project denial of Colstrip Projects 3 and 4; such a corridor decision would have to be made in conjunction with decision on overall project. 2. May force energy conservation, thereby extending useful life of coal and related resources. 3. Avoids initial construction costs (214 to 233.1 Million) and operating cost. 4. Major front end capital outlay in Units 3 and 4 and ancillary facilities by applicant would constitute an essentially non-productive investment.

VI. SUMMARY OF PUBLIC AND AGENCY REVIEW

Copies of the draft EIS, the TER, and draft Federal Corridor Option Summary were available for review by the public and state and federal agencies. Public hearings were held in Butte, Billings, Helena, Missoula, and Forsyth. Comments related to the proposed Colstrip transmission line and its alternative corridors were obtained from letters and from hearing transcripts. This summary of comments and concerns is limited to those comments directed at the transmission lines or corridors only.

Comments were received from 78 people from 12 Montana communities and 9 states. Two petitions were also submitted by concerned groups. Commentors represented local, state, and federal government agencies, tribal entities and their agents, community organizations, educational representatives, conservation groups, and private individuals.

Resource issues of concern include potential impacts on agricultural lands, other land uses, wildlife, forest land, rangeland, floodplains and wetlands, wilderness and roadless areas, vegetation and soils, noise, recreation, historical, archeological and cultural resources, social resources, local economics, employment, and visual impacts. Other comments indicated concerns about safety, reliability factors, interference with communications, alternate ways of transmitting energy out of Montana, project delays, and legal ramifications. Some of the specific group or agency concerns and recommendations are summarized below:

Agricultural Interests - A number of farmers, ranchers, and agriculturally oriented interests expressed the desire to have potential impacts on agricultural lands receive greater consideration. Disruption of farming activities, both on irrigated and non-irrigated farmlands, and problems associated with locating additional towers and guy lines where existing lines already cross farm and ranchlands were specifically mentioned. Potential devaluation of land was also of concern. Segments D₁ and D₂ are most involved by these comments (Trident-Boulder, Butte-Anaconda, and Trident-Siegel Pass Options).

Meagher County Planning Board - This group expressed concerns on the part of landowners in Meagher County. Segment C₁ of the Applicant's Proposed Corridor (plus four corridor alternatives) passes through this county. Their concerns include potential weed and erosion hazards, visual impacts, creating public access through private lands, and creation of a new corridor north of the Crazy Mountains as compared to utilizing the existing corridor south of the mountains. They acknowledged potential economic benefits should the project cross Meagher County.

Fish and Wildlife Service (USDI) - Personnel from the Billings Area Office of this agency expressed a preferred route from the standpoint of preservation of fish and wildlife resources. Their preferred corridor would follow segments A-C₁-C₂-C₃-C₄-E₁-E₂-E₃-H-J-K-L. This is the same corridor as the Applicant's Proposed Corridor, except that segment G (a high fish and

wildlife impact area) is by-passed by substituting segments H, J, and K. Segment C₂ of this preferred corridor passes through the Limestone Hills west of Townsend. Specific reasons were presented for this preferred alignment.

Elk-Logging Study Group - The Montana Cooperative (USDA, USDI, Montana Fish and Game Department and University of Montana) Elk-Logging Study in the Chamberlain Creek area (segment H) has been conducted for the past 8 years and is scheduled to continue through September 1984. Personnel from this study group and its steering committee expressed strong concerns that constructing transmission lines across the study area would be totally disruptive. They state the study is now entering its most productive phase.

Tribal Entities - Agents representing the Confederated Salish and Kootenai Tribes of the Flathead Reservation submitted comments reflecting the position of the Tribes and Tribal Council. These comments raise specific legal points of importance, with particular relevance to the possible decision that a portion of the lines would be constructed by BPA on a right-of-way acquired in 1951 across the reservation. They are opposed to having the corridor cross the "Jocko Primitive Area," and concerned about the reliability of double circuits supported on single towers, increased potential environmental impacts should BPA build a portion of the lines, problems with farming and ranching, proximity to populous areas, and safety.

A stand by a number of Tribal members who do not oppose construction of the lines across the reservation was revealed by a petition submitted by "The Voice of the Indian People of the Confederated Salish and Kootenai Tribes of the Flathead Reservation." This petition was signed by 165 individuals who state that they do not oppose the lines as long as the Tribes are paid a rental for the new lines, the rental fee to be approved by the Tribal Council prior to any construction.

Heritage Conservation and Recreation Service (USDI) - The Director of the HCRS expressed continued concern of his agency relative to impacts of the applicant's proposed alignment (segment G) on the nationally-recognized scenic and recreational values of the Blackfoot River. Because of the national significance of these values and the cooperative efforts to manage and protect them, this agency continues to oppose any proposed alignment (Applicant's Proposed and Great Falls Alternative Corridors) which introduces new intrusions to the Blackfoot River. They recommend that serious consideration be given to alternative alignments which would avoid this area.

Northwest Helena Valley Residents - Sixty nine residents of the northwest Helena Valley area signed a petition stating they adamantly oppose the construction and maintenance of Colstrip transmission lines through and/or near their properties. They specified several reasons for their opposition, including aesthetic, noise, radio and TV interference, shock hazard, health hazards, land values, and existence of better alternatives to transmission lines for accomplishing the same purpose. The corridors that would directly influence this group of residents are those which utilize segment E₁ (Applicant's Proposed, Siegel Pass, and Helena-Avon Valley).

Bureau of Indian Affairs (USDI) - The Flathead Agency (BIA) made a number of comments in behalf of the agency and the Confederated Salish and Kootenai Tribes concerning statements in the draft EIS which 1) are accurate and should receive more emphasis in the final EIS; 2) are definitely in error and should be corrected; and 3) were omitted and should be included in the final EIS. The agency did not suggest a preferred corridor. The Northern Cheyenne Agency (BIA) expressed concerns relative to mining and generation, but not to transmission aspects.

U.S. Environmental Protection Agency - This agency recommends that the routes with the lowest environmental impacts be chosen, but that the Siegel Pass link (a high environmental impact area) to Plains be utilized to avoid crossing the Flathead reservation. They further recommend that proper mitigation of impacts, water quality in particular, be a requirement of any transmission line. Of additional concern was the lack of a direct comparison between the K-L link crossing the Flathead Reservation and the M₁-R-M₃ alternative link across Siegel Pass, both of which could serve in eight of the alternative corridors.

Montana Power Company (Applicant) - A very comprehensive review of the draft documents was made by Montana Power Company (MPC). Their concerns involved all aspects of the transmission reports, including the environmental analysis, methodologies, accuracies, editorial comments, special problem areas, and other specifics. Addressing the extensive list of MPC comments resulted in many alterations of the analysis documents. MPC's materials were supportive of the Applicant's Proposed Corridor.

All comments relating to transmission aspects were addressed by the TER Study Team and appropriate actions were taken. Corrections, additions, and deletions for each document were specified. Clarifications concerning methodology, reasoning, and procedural matters were made where needed. A complete copy of all public comments and responses is included in the final Colstrip EIS.

These comments are summarized here and in Chart B to indicate for management major agency and group positions on the corridor options. Most transmission comments, however, including much of these comments, are reflected directly in the advantages and disadvantages tables--and in the changes and revisions made in these since the draft option summary was released.

APPENDIX 1

Comparison of Siegel Pass (M₁-R-M₃) and Flathead Reservation (K-L) Segments

Because of strong issues raised in both the analysis and in public comment to issues surrounding the routing of the corridor across the Flathead Indian Reservation, the following comparisons have been included to compare the preferred routing across the Reservation from the environmental standpoint (corridor K-L) with the alternative public land routing across Siegel Pass (M₁-F-M₃). This is to provide the decisionmakers with an understanding of these comparisons, since the federal corridor can indicate a preference for crossing the reservation, but a corridor designation across the Reservation falls within the jurisdiction of the confederated Salish and Kootenai tribes.

Major differences in federal lands crossed is apparent (0.7 miles via the Reservation and 26.9 miles via Siegel Pass). Also, much more state and private lands are crossed over the Siegel Pass link (29.3 miles vs. 2.8 miles). The potential for total forest land cut is more than twice as great over Siegel Pass (395 acres vs. 885 acres).

Slight advantages for the Siegel Pass link include only 23 acres of dryland farming potentially removed from production as compared to 40 acres on the link crossing the Reservation, fewer State Parks and Recreation Areas influenced (1 vs. 2), and fewer scenic travelways crossed (6 vs. 9).

TER Scores*

(Scores from P VI-4a
(Table VI-1) TER)

	Corridor K-L (Reservation Route)	Corridor M ₁ R M ₃ (Siegel Pass)
Length:	51.8 miles	56.2 miles
Fish and Wildlife	120	294
Land Suitability	158	162
Surface Water	52	62
Veg. Cover	208	246
Un. Nat. Res.	0	9
Agr. Lands	96	180
Comm. For. Land	108	246
Rangeland	52	170
Rec. Resources	197	319
Pre. and Hist.	195	165
Human Pop.	195	193
Visual Res.	327	470
TOTAL	1,708	2,516
Paralleling adjustment	<u>- 229</u>	<u>0</u>
	1,479	2,516

*Higher scores, or numerical presentation of impact severity, indicate greater undesirable environmental impact on these resource categories. From Colstrip Transmission Environmental Report (TER).

Data Summary From
P VI-6a
(Table VI-3) TER

	Corridor K-L (Reservation Route)	Corridor M ₁ R M ₃ (Siegel Pass)
Fed. Lands	0.7 miles	26.9 miles
Reserv. Lands	48.3 miles	0 miles
St. and Private Lands	2.8 miles	29.3 miles
Total Forest Land Cut	395 acres	885 acres
Agr. Land/Irrig. Land	40/1.5 acres	23/3.3 acres
-- No high sediment risk soils either way --		
Waterbodies crossed	30	38
Recreation, Waterway	7	10
St. Parks-Rec. Areas	2	1
Scenic Travelways (crossed)	9	6
(miles paralleled)	30 miles	53 miles
Historic Trails	0	0
Nat. Reg. & Hist. Sites	1	6
Elk Winter Range/ Key Elk Areas	1/0	18/2
-- No grizzly critical habitat on either --		

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BUREAU OF LAND
BORROWER:

TD Federal corridor opt:
195
.E37
F42

DATE LOANED	BORROWER

(Continued on reverse) Form

● Highest potential impact*
⊕ High
⊖ Moderate to high
⊕ Moderate to low
⊖ Low
○ Lowest or no conflict

FEDERAL COLSTRIP PROJECT
Summary of major corridor considerations
(Project Development and Jurisdictional)

*TER Scores (where appropriate) each symbol represents approximately 20% difference between high and low scores.
**Lowest adaptability is equivalent to highest potential impact on legend.
July 1979

DECISION OPTIONS	CONSTRUCTION COST (MIL. OF DOLLARS)	LINE LENGTH (MILES)	FEDERAL LANDS CROSSED (MILES)	FLATHEAD INDIAN JURISDICTION	PARALLELING OF EXISTING POWERLINE CORRIDORS	PRESENT PROJECT STATUS	IMPLEMENTATION SCHEDULE	COMPATIBILITY WITH EXISTING LAND USE PLANS	TRANSMISSION SYSTEM EFFICIENCY	IMPACT ON TRANSMISSION COSTS*	ADAPTABILITY TO LONG RANGE ELECTRIC PLANS **	MAJOR AGENCY OR GROUP RECOMMENDATIONS
1. APPLICANTS CORRIDOR	\$214.3 (least)	431.3 (shortest)	48.4 (Crosses lowest miles of state and private land; 326.5 miles.)	Crosses 55.4 miles of Flathead Indian Reservation. Jocko Primitive Area has been so classified.	Second lowest potential; parallels only 232 miles or 54% of corridor length.	Corridor approved by the Montana Board of Natural Resources and Conserva- tion. (BNRC). Centerline approved from Colstrip to near Townsend.	No project delay.	Crosses Colorado - Unionville - Travis Planning Unit (USFS); Lines may conflict with scenic qualities of the area recognized in draft unit plan and EIS. Crosses Blackfoot River (1) Recreation Corridor and (2) Resources Conservation Area.	Moderate to low energy loss; but second highest.	Moderate to low annual costs*	High adaptability.	National Director HCRS op- poses any alignment which in- troduces new intrusions to Blackfoot River (segment G). NW Helena Valley residents petitioned against crossing their area (segment E). Meagher County Planning Board suggest existing cor- ridor south of Crazy Mtns. Fish and Wildlife Service op- poses use of segment G.
2. SIEGEL PASS - ALT.	\$223.3	445.3	76.1 (most)	Avoids Flathead Indian Reservation.	Lowest potential; Parallels only 175 miles of existing lines or 39% of corridor length making it least desirable for paralleling.	Corridor approved by BNRC to Ovando area. Centerline approved from Colstrip to near Townsend. May require additional review under state siting act by BNRC.	Would delay project.	Greatest conflict with land management plans (B). Would disrupt long-term Elk- logging study.	Moderate to low energy loss; but second highest.	Moderate to high annual costs.	Lowest adaptability.	Area director FWS recommends this corridor, except that western link (seg- ment K&L) follow the corridor across Flathead reservation. EPA (Regional Administrator) recommends avoidance of reservation by combining Siegel Pass link (segment M1-RM3) with low- est impact route through segment J. NW Helena Valley residents petitioned against crossing their area (segment E). Coop elk logging study group strongly oppose segment H.
3. GREAT FALLS ALT.	\$ 230.7 (second highest)	447.6	27.9 (least)	Crosses 55.4 miles of Flathead Indian Reservation. Jocko Primitive Area has been so classified.	Second highest potential; parallels 366 miles of existing line or 82% of corridor length making it (along with Butte-Anaconda Alt.) the best paralleling choice.	Only Corridor segments A, G and L are approved by BNRC. May require addi- tional review under state siting act by BNRC.	Would delay project.	Crosses Blackfoot River (1) Recreation Corridor, (2) Resource Conservation Area, and (3) Blackfoot- Clearwater Wildlife management area.	Highest energy loss.	Highest annual cost.	Low adaptability.	HCRS (National Director) opposes any alignment which introduces new intru- sion to Blackfoot River (segment G). Fish and Wild- life Service (Area Director) opposes use of segment G.
4. HELENA ALT. McDonald Pass	\$222.8	445.3	38.6	Crosses 46.3 miles of Flathead Indian Reservation.	Moderate potential parallels only 255 miles of existing lines or 57% of corridor length.	Corridor approved by BNRC to the Helena Area. Centerline approved from Colstrip to near Townsend. May require additional review under state siting act by BNRC.	Would delay project.	Crosses Colorado - Unionville - Travis Planning Unit. (USFS)	Moderate to high energy loss; but second highest.	Moderate to high; but second highest.	Moderate to low adaptability	Meagher Co. Planning Board (same as in 1 above)
5. HELENA ALT. Avon - Valley	\$222.6	445.7	39.4	Same as option no. 4.	Same as option no. 4	Corridor approved by BNRC to area approximately 20 miles west of Helena in Cor- ridor segment E. Centerline approved from Colstrip to near Townsend. May require additional review under state siting act by BNRC.	Would delay project.	Crosses Colorado - Unionville - Travis Planning Unit (USFS)	Moderate to high energy loss; but second highest.	Moderate to high; but second highest.	Moderate to high adaptability.	Meagher Co. Planning Board (same as in 1 above) NW Helena Valley residents have petitioned against crossing their area (segment E).
6. HELENA ALT. Avon Valley. BPA Build Alt. Blossburg	\$227.6	445.7 (141.3 by BPA) BPA Right-of-way 120' wide Montana Power Right-of- way 300' wide	39.4	Same as option no. 4.	Same as option no. 5. Existing corridor through Flathead Reservation. Existing BPA right-of-way from Garrison to Hot Springs.	New state siting not required. (BPA)	No project delay.	Same as option no. 5.	Lowest energy loss.	Lowest annual costs.	Highest adaptability. (Line capacity could be expanded or upgraded on BPA - Build portion.)	Same as option no. 5
7. TOWNSEND-BOULOER ALT.	\$ 221.8 (second lowest)	443.2 (second shortest)	52.2	Same as option no. 4.	One of three lowest potentials for paralleling. (240 miles of existing lines or 54% of corridor length.)	Corridor approved by BNRC to Townsend Area. Centerline approved from Colstrip to near Townsend. May require additional review under state siting act by BNRC.	Would delay project.	Crosses Basin Planning Unit. (No specific guidance on transmission lines in 1976 Unit Plan.)	Low energy loss.	Moderate to low annual costs.	Highest adaptability	Meagher Co. Planning Board (same as in 1 above).
8. TOWNSEND-BOULOER ALT. BPA Build Townsend	\$229.2	443.2 (197.6 by BPA) BPA Right-of-way 120' wide Montana Power Right-of- way 300' wide	52.2	Same as option no. 4.	Same as option no. 7. Existing corridor through Flathead Reservation. Existing BPA right-of-way from Garrison to Hot Springs.	New state siting not required. (BPA)	No project delay.	Same as option no. 5.	Lowest energy loss.	Second lowest annual costs.	Highest adaptability. (Line capacity could be expanded or upgraded on BPA - Build portion.)	Same as option no. 7
9. TRICENT-SIEGEL PASS - ALT.	\$227.7	449.8 (second longest)	62.4	Avoids Flathead Indian Reservation.	Moderate potential; parallels 260 miles of existing line or 60% of corridor length.	Only Corridor segment A from Colstrip to Broadview approved by BNRC. May re- quire additional review under state siting act by BNRC.	Would delay project.	Same as option no. 7. Crosses Nine Mile Hill Planning Unit. Gallatin N.F. Northern Bridger Planning Unit management direction provides that any additional power lines will use existing r.o.w. across Flathead Pass.	Low energy loss.	Moderate to high annual cost.	Lowest adaptability.	EPA (Regional Administra- tor) recommends that this, or an equally low impact corridor be selected using Siegel Pass link in area west of segment J.
10. TRICENT-BOULOER ALT.	\$224.7 (third lowest)	445.4	36.2	Same as option no. 4.	High potential; parallels 320 miles of existing lines or 72% of corridor length. (2nd best paralleling to Butte- Anaconda and Great Falls.)	Same as Option No. 9.	Would delay project.	Crosses Basin Planning Unit. Gallatin N.F. Northern Bridger Planning Unit management direction provides that any additional power lines will use existing r.o.w. across Flathead Pass.	Low energy loss.	Moderate to high annual cost.	Moderate to low adaptability.	EPA (Regional Administra- tor) recommends that this, or an equally low impact corridor be selected using Siegel Pass link in area west of segment J. Agricultural interests oppose use of segment D.
11. BUTTE-ANACONDA	\$233.1 (highest)	461.2 (longest)	29.9	Same as option no. 4.	Highest potential for paralleling. (385 miles of existing line or 82% of corridor length.)	Same as Option No. 9.	Would delay project.	No conflicts. Gallatin N.F. Northern Bridger Planning Unit management direction provides that any additional power lines will use existing r.o.w. across Flathead Pass.	Lowest energy loss.	Moderate to high annual cost.	Moderate to high adaptability.	
12. DENIAL OF FEDERAL CORRIDOR	None	0	0	None	N.A.	Would conflict with BNRC decision to build transmis- sion line. Equivalent to deny- ing state approved project. Major front end capital outlay in Units 3 & 4 essen- tially non-productive investment.	Equivalent to denial of Colstrip Units 3 and 4.	NA	NA	NA	Reduced transmission system reliability for Montana and the N.W. Region. Possible future power shortages in Montana.	

Highest potential impact *
High
Moderate to high
Moderate to low
Low
Lowest or no conflict

FEDERAL COLSTRIP PROJECT
Summary of major corridor considerations
(Environmental)

*TER Scores (where appropriate) each symbol represents approximately 20% difference between high and low scores.

July 1979

DECISION OPTIONS	OVERALL ENVIRONMENTAL IMPACT FROM TER	OVERALL VISUAL IMPACT INCL. MILES OF HIGH IMPACT	COMMERCIAL FOREST IMPACT	OVERALL AGRICULTURAL IMPACT	SPECIAL MANAGEMENT AREAS & UNIQUE RESOURCES IMPACTS	OVERALL RECREATION IMPACT	FISH & WILDLIFE HABITAT IMPACTS	THREATENED & ENDANGERED SPECIES	CULTURAL RESOURCE IMPACTS	EFFECT ON RESIDENTIAL AREAS	OTHER
1. APPLICANTS PROPOSED CORRIDOR	Second highest	Second Highest - Crosses close to National Bison Range; intrudes on view of Mission Mountains from self-guided tour which is a nationally advertised attraction. Crosses 122 miles of high visual impact zone.	Third highest Crosses 92 miles. Involves 3,919 acres of total forested land.	Low. Crosses 20 miles of irrigated land and 85 miles of dryland.	Crosses northern end of RARE II area I-742 (Crazy Mtns.). Allocated to non-wilderness final EIS RARE II. Crosses the "Jocko Primitive Area" so classified by the Confederated Salish and Kootenai Tribes. Crosses National Guard Training Area (BLM) in Limestone Hills.	Second highest. Crosses 110 recreation waterways. (highest number of crossings and parallels 196 miles). Corridor crosses Blackfoot River Recreation Corridor. Crosses within 2 miles or less of 32 State Parks and Recreation areas.	Low. Crosses 46 miles of high value wildlife habitat; includes 12 miles of elk winter range. Crosses Blackfoot Clearwater wildlife management areas. Crosses lowest water bodies (187).	Crosses 15 miles of grizzly bear critical habitat.	Fourth highest. Intersects 27 National Register sites and crosses 3 historic trails and parallels 23 miles of historic trails.	Expressed and probable public concerns in Helena, Helena, Ovando and St. Ignace areas. Lowest potential impact in relation to human population density and proximity.	
2. SIEGEL PASS ALTERNATIVE	Highest	Highest; parallels 180 miles of scenic travelways and crosses 134 miles of high visual impact zone.	Highest impact. Crosses 106 miles of Forest land involving 4,350 acres of total forested land.	Moderate. Crosses 35 miles of irrigated land and 81 miles of dryland.	Crosses RARE II area I-796 and I-742; allocation in final EIS is to non-wilderness. Highest Unique Natural Resources. Crosses Wales Creek Wilderness Study Area (BLM). Crosses National Guard Training Area (BLM) in Limestone Hills.	Highest	Moderate. Crosses 58 miles of high value wildlife habitat; includes 21 miles of elk winter range.	No identified impacts	Third highest. Intersects 29 National Register sites and crosses 3 historic trails and parallels only 3 miles of historic trails.	Expressed and probable public concerns in Helena, Ovando, Helena, Potomac and Missoula areas. Second highest potential impact on people and communities (EIS).	Potential conflicts in crossing Blackfoot River. Critical location problems in vicinity of Paradise. Would require a new substation near Plains.
3. GREAT FALLS ALTERNATIVE	Low	Second lowest. Crosses very close to National Bison Range. Intrudes on the view of Mission Mountains from self-guided auto tour which is a nationally advertised attraction. Has lowest incidence of paralleling scenic travelways (112 miles).	Second highest. Crosses 95 miles involving 4,045 acres of forested land.	Moderate. Crosses 13 miles of irrigated land and 102 miles of dryland. (Highest impact on dryland).	Crosses "Jocko Primitive Area", so classified by the Tribes; would violate existing policy and management.	Third highest. Crosses near or intersects the greatest number of State Parks and Recreation areas (39).	Highest overall potential impact crosses 81 miles of high value wildlife habitat; includes 10 miles of elk winter range. Crosses greatest number water bodies (261).	Crosses 32 miles of grizzly bear critical habitat.	Lowest. Intersects 10 National Register and historic sites; crosses only 2 historic trails and has no paralleling effects.	Expressed and probable public concern in the St. Ignace, Lincoln, Ovando and St. Ignace areas.	Potential conflicts in crossing Blackfoot River. Second lowest in overall socio-economic impact (EIS).
4. HELENA ALTERNATIVE McDonald Pass	Low	Low; however, has greatest incidence of travelway crossings (79). Use of established corridor in vicinity of Missoula avoids impact on areas of higher scenic quality (Segments G & H), but at cost of increased corridor congestion.	Lowest. Crosses 59 miles involving 2,097 acres of forested land. Same as Butte-Anaconda on commercial timber.	Second lowest. Crosses 21 miles irrigated land and 78 miles dryland.	Crosses the northern end of RARE II area I-742 (Crazy Mtns.); crosses very near area I-618 (Big Bell's Mtns.), I-607, and I-608 which both lie near Helena. (All have been allocated to non-wilderness). Crosses National Guard Training Area (BLM) in Limestone Hills.	High. (Fourth highest) Intersects the greatest number of proposed and existing State Parks and Recreation areas.	Second lowest. Crosses 33 miles of high value fish and wildlife habitat; including 7 miles of elk winter range.	No identified impacts	Highest tied with no. 5; intersects 29 National Register sites and historic sites. Crosses 4 historic trails and parallels 49 miles.	Expressed and probable public concerns in the Helena, Garrison, Drummond, and Missoula areas. Second highest potential impact in relation to human population density and proximity.	Crosses a total of 21.1 miles of sensitive soils in the Helena and Loweth areas giving this alternative the highest soils impacts of all the corridors. Costs of stabilization are not estimated as part of construction costs. McDonald Pass is an area of high environmental sensitivity.
5. HELENA ALTERNATIVE Avon Valley	Low	Low	Low. Crosses 63 miles involving 2,664 acres of forested land.	Lowest. Crosses 19 miles of irrigated land and 78 acres of dryland. Tied in ratings with no. 7.	Crosses the northern end of RARE II area I-742 (Crazy Mtns.); Crosses National Guard Training Area (BLM) in Limestone Hills.	Moderate	Lowest; crosses 31 miles of high value fish and wildlife habitat; crosses 1 mile of elk winter range.	No identified impacts	Highest overall cultural impact; intersects 43 National Register and historic sites. Crosses 4 historic trails and parallels 30 miles.	Expressed and probable public concerns in the Helena, Garrison, Drummond, and Missoula areas.	Avoids MacDonald Pass.
6. HELENA ALTERNATIVE Avon Valley BPA Build Alt. Blossburg	Low	Substantially smaller visual impacts for 23.6 miles, due to less R.O.W., access roads and towers. (Modified by 50' taller towers on BPA-Build portions.)	Same as no. 5. Except less R.O.W. clearing required, (629 acres less)	Same as no. 5 except 50 less dryland and 3.1 less irrigated acres impacted.	Same as option no. 5.	Same as option no. 5. Except less acreage affected.	Less clearing or habitat modification than option No. 5.	No identified impacts	Highest. Similar to No. 5 except less visual impact on BPA-Build segments.	Similar to No. 5 except less acreage affected in Helena, Garrison, Drummond and Missoula areas.	Same consideration as no. 5 except: (1) Dryland impact 59 acres less. (2) Double circuit towers are approx. 50 feet higher, creating an overall higher visual impact for 111 miles. (3) number of towers required substantially less than No. 5.
7. TOWNSEND BOULDER ALTERNATIVE	Third lowest overall environmental impact.	Second lowest overall visual impact. (Tied with option no. 3). Crosses 68 scenic travelways and parallels 121 miles.	Moderate to low. Crosses 74 miles involving 3,126 miles of forested land.	Lowest. Crosses 20 miles of irrigated land and 76 miles of dryland. (Tied in rating with no. 5 + 6)	Same as option no. 5, avoids Limestone Hills.	Second lowest.	Moderate to low. Crosses 52 miles of high value fish and wildlife habitat, including 14 miles of elk winter range and 12 miles of key elk areas.	No identified impacts	Second lowest. (Tied with no. 9)	Avoids Helena area; however, has or will probably encounter public concerns in Boulder, Garrison, Drummond and Missoula areas.	
8. TOWNSEND BOULDER ALTERNATIVE RPA - Build Alt. - Townsend	Third lowest; same as no. 7.	Substantially smaller visual impacts for 53.4 miles, due to less R.O.W., access roads and towers. (Modified by 50' taller towers on BPA-Build portions.)	Less R.O.W. clearing required (1147 acres less)	Same as no. 7 except 68 acres less drylands acres and 3.1 less irrigated acres impacted.	Same as option no. 7.	Same as option no. 7. Except less acreage affected.	Less clearing or habitat modification than option No. 5.	No identified impacts	Second lowest; Similar to No. 7 except less visual impact on BPA-Build segments.	Similar to No. 7 except less acreage affected in Boulder, Garrison, Drummond and Missoula areas.	Same consideration as no. 7 except: (1) Narrower right-of-way reduces visual impact for 53 miles; (2) Double circuit towers are 50 feet higher creating a higher visual impact for 144 miles. (3) Removes 68 less dryland acres; (4) Cuts 1,141 less acres of commercial forest land.
9. TRIDENT SIEGEL PASS ALTERNATIVE	Third highest (essentially equal to no. 1; second highest)	Third highest. Has highest incidence of paralleling scenic travelways (188 miles)	High. Involves 3,316 acres of forested land.	Highest. Crosses 36 miles of irrigated land and 101 miles of dryland.	Crosses on or near RARE II Areas I-793; I-796, and I-543 (all proposed for non-wilderness). Crosses Proposed Boulder River Irrigation Project Area, south of Boulder. Crosses north end of Hallstone Wildlife Refuge. Crosses proposed HCRS-USFS recreation composite near Flathead Pass.	Third lowest; has highest incidence of paralleling recreation waterways; has lowest potential impacts on recreation waterway, crossing 71.	Second highest, crosses 64 miles of high value fish and wildlife habitat including 24 miles of elk winter range and 14 miles of key elk areas, giving it the highest impact on elk habitat. Second highest number of water bodies crossed (235).	No identified impacts	Second lowest tied with no. 7. Crosses one historic trail and parallels 4 miles.	Expressed and probable public concerns in Boulder, Drummond, and Missoula areas. Avoids all major communities except Missoula.	New substation required near Plains. Physical limitations exist in Flathead Pass. Involves service maintenance and reliability. Critical location problems in vicinity of Paradise.
10. TRIDENT BOULDER ALTERNATIVE	Lowest	Lowest. Along with option no. 9 crosses least amount of high visual impact zone (65 miles)	Third lowest. Crosses 67 miles involving 2,826 acres of forested land.	Third highest. Crosses 25 miles of irrigated land and 97 miles of dryland.	Lowest Unique Natural Resources (same as Butte-Anaconda). Crosses north end of Hallstone Wildlife Refuge. Crosses HCRS-USFS proposed recreation composite (Bridger Mtns.). Crosses Proposed Boulder River, Irrigation Project Area, south of Boulder. Crosses near RARE II area I-543.	Lowest.	Low. Crosses 44-miles of high value fish and wildlife habitat; crosses 7 miles of elk winter range. Crosses the northern section of the Hallstone Wildlife Refuge	No identified impacts	Fourth lowest. Least potential influence on National Register and Historic Sites (9).	Expressed and probable public concerns in Boulder, Drummond, and Missoula areas. Avoids all major communities except Missoula.	Flathead Pass problems (see 9 above).
11. BUTTE ANACONDA ALTERNATIVE	Second lowest overall impact.	Low. Crosses least amount of high visual impact zone (65 miles)	Second lowest. Crosses 56 miles involving 2,106 acres of forested land.	Second highest. Crosses 26 miles of irrigated land and 97 miles of dryland.	Lowest Unique Natural Resources (same as no. 10). Crosses north end of Hallstone Wildlife Refuge. Crosses HCRS-USFS proposed Recreation Composite (Bridger Mtns.). Near RARE II area I-543.	Fewest State Parks and Recreation Areas potentially influenced (21).	Low. Crosses 36 miles of high value fish and wildlife habitat; crosses 5 miles of elk winter range.	No identified impacts	One of lowest potential impacts on National Register and Historic Sites. Crosses one historic trail and parallels four miles.	Expressed and probable public concerns in Drummond, Garrison, Missoula, Butte and Anaconda areas. Highest potential impact in relation to human population density and proximity.	Flathead Pass problems (see 9 above).
12. DENIAL OF FEDERAL CORRIDOR	No impact (Would likely lead to need for developing alternative energy sources, perhaps creating environmental impacts elsewhere.)	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	No impact	Could force further energy conservation; short-term employment lost. Would cancel alternative electrical generation for N.W. region that would alleviate dependence on hydro-electric.

